check date + work Ref

Mitra 09/864,169

=> fil MEDLINE, HCAPLUS, BIOSIS, EMBASE, SCISEARCH, AGRICOLA, WPIDS
FILE 'MEDLINE' ENTERED AT 14:49:19 ON 15 MAY 2003

FILE 'HCAPLUS' ENTERED AT 14:49:19 ON 15 MAY 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 14:49:19 ON 15 MAY 2003
COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC.(R)

FILE 'EMBASE' ENTERED AT 14:49:19 ON 15 MAY 2003
COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'SCISEARCH' ENTERED AT 14:49:19 ON 15 MAY 2003
COPYRIGHT 2003 THOMSON ISI

FILE 'AGRICOLA' ENTERED AT 14:49:19 ON 15 MAY 2003

FILE 'WPIDS' ENTERED AT 14:49:19 ON 15 MAY 2003
COPYRIGHT (C) 2003 THOMSON DERWENT

=> d que 123
L1 189494 SEA (FUSION OR FUSED OR CHIMAER? OR CHIMER?)(3A) PROTEIN#
L2 9432 SEA (ANTIMICROB? OR ANTIBACTER? OR ANTIFUNG? OR ANTIPROTOZO? OR ANTIPARASIT?)(5A) PROTEIN#
L3 611 SEA (ANTI(A)(MICROB? OR BACTERI? OR FUNGUS OR FUNGAL OR PROTOZO? OR PARASIT?))(5A) PROTEIN#
L5 47076 SEA DISULFIDE(3A) BOND#
L7 45268 SEA CHAPERON?
L12 625 SEA IMAEDA T?/AU
L13 27362 SEA YAMADA Y?/AU
L18 36276 SEA (L12 OR L13 OR L14 OR L15 OR L16 OR L17)
L19 117 SEA L18 AND L1
L20 7 SEA L19 AND L7
L21 5 SEA L19 AND L5
L22 2 SEA L19 AND (L2 OR L3)
L23 12 SEA (L20 OR L21 OR L22)

=> d ibib abs 123 1-12

L23 ANSWER 1 OF 12 MEDLINE
ACCESSION NUMBER: 2000120516 MEDLINE
DOCUMENT NUMBER: 20120516 PubMed ID: 10653729
TITLE: A **protein** disulfide isomerase gene **fusion** expression system that increases the extracellular productivity of Bacillus brevis.
AUTHOR: Kajino T; Ohto C; Muramatsu M; Obata S; Udaka S; **Yamada Y**; Takahashi H
CORPORATE SOURCE: Toyota Central Research & Development Laboratories, Inc., Nagakute, Aichi 480-1192, Japan.. e0846@mosk.tytlabs.co.jp
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (2000 Feb) 66 (2) 638-42.
Journal code: 7605801. ISSN: 0099-2240.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

Search completed by David Schreiber 308-4292

ENTRY MONTH: 200003
ENTRY DATE: Entered STN: 20000327
Last Updated on STN: 20000327
Entered Medline: 20000313

AB We have developed a versatile Bacillus brevis expression and secretion system based on the use of fungal protein disulfide isomerase (PDI) as a gene fusion partner. Fusion with PDI increased the extracellular production of heterologous proteins (light chain of immunoglobulin G, 8-fold; geranylgeranyl pyrophosphate synthase, 12-fold). Linkage to PDI prevented the aggregation of the secreted proteins, resulting in high-level accumulation of **fusion proteins** in soluble and biologically active forms. We also show that the disulfide isomerase activity of PDI in a **fusion protein** is responsible for the suppression of the aggregation of the protein with intradisulfide, whereas aggregation of the protein without intradisulfide was prevented even when the **protein** was **fused** to a mutant PDI whose two active sites were disrupted, suggesting that another PDI function, such as **chaperone**-like activity, synergistically prevented the aggregation of heterologous **proteins** in the PDI **fusion** expression system.

L23 ANSWER 2 OF 12 MEDLINE
ACCESSION NUMBER: 89357259 MEDLINE
DOCUMENT NUMBER: 89357259 PubMed ID: 2504632
TITLE: A laminin-pepsin fragment with cell attachment and neurite outgrowth activity at distinct sites.
AUTHOR: Sephel G C; Tashiro K; Sasaki M; Kandel S; **Yamada Y** ; Kleinman H K
CORPORATE SOURCE: Laboratory of Developmental Biology and Anomalies National Institute of Dental Research, Bethesda, Maryland 20892.
SOURCE: DEVELOPMENTAL BIOLOGY, (1989 Sep) 135 (1) 172-81.
Journal code: 0372762. ISSN: 0012-1606.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198909
ENTRY DATE: Entered STN: 19900309
Last Updated on STN: 19900309
Entered Medline: 19890928

AB Laminin is a large basement membrane glycoprotein which influences the behavior and morphology of a variety of cells. We have found that laminin and a pepsin fragment of laminin (P-lam) contain distinct sites for HT-1080 human fibrosarcoma cell attachment and for neurite outgrowth activity of PC12 and NG108-15 cell lines. Reduction and alkylation of laminin and P-lam fragment **disulfide bonds**, in the absence of denaturing agents, markedly reduced the cell attachment activity without reducing the neurite outgrowth response. The P-lam fragment (approximately 375 kDa) was found to contain part of the cross region of laminin and a portion of the long arm, on the basis of recognition by antisera against laminin synthetic peptides and **fusion proteins**. Modification of arginine residues by cyclohexanedione also had no effect on neurite outgrowth but reduced HT-1080 cell adhesion. Modification of lysine residues by succinic and citraconic anhydride, however, abolished laminin neurite outgrowth but not cell attachment activity. Neurite outgrowth activity was recovered by reversing the lysine modification. These data support the existence on laminin of separate sites for cell attachment and for neurite outgrowth.

Search completed by David Schreiber 308-4292

Mitra 09/864,169

L23 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:800768 HCAPLUS
DOCUMENT NUMBER: 137:321277
TITLE: **Antibacterial protein** preparation as **fusion protein** with acidic **chaperonin** for improved secretion efficiency and refolding
INVENTOR(S): **Imaeda, Takao; Yamada, Yukio; Hirai, Masana; Shimamura, Takashi;** Koda, Katsunori; **Muramoto, Nobuhiko**
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002306182	A2	20021022	JP 2001-156444	20010525

PRIORITY APPLN. INFO.: JP 2000-161090 A 20000526

AB Described is a method of recombinant prepn. of basic **antibacterial proteins** requiring **disulfide bond** formation for activity by expressing as **fusion protein** with a **chaperone** function-contg. partner having isoelec. point (pI) below pH 7, and subsequent activation using the **chaperone** function of the fusion partner for refolding. Thionin, PR protein, lipid transfer protein, ribosome-inactivating protein of plant origin, or defensin of plant, insect, or human-origin may be produced. Protein disulfide isomerase (PDI), acidic protein encoded by the gene downstream of thionin gene, thioredoxin, or **chaperonin**, may be used as fusion partner. Humicola insolens PDI carboxyl terminal and peptidylprolyl cis-trans isomerase, may be used, more specifically. Prepn. of wheat thionin as a **fusion protein** with acidic **protein** or PDI in E. coli was demonstrated.

L23 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:682846 HCAPLUS
DOCUMENT NUMBER: 137:228382
TITLE: Preparation of **fusion protein** consists of chitin and cell toxic peptide and the uses the **protein** as **antibacterial** agent
INVENTOR(S): **Imaeda, Takao; Shimamura, Takashi; Hirai, Masana**
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002253245	A2	20020910	JP 2001-55200	20010228

PRIORITY APPLN. INFO.: JP 2001-55200 20010228

Search completed by David Schreiber 308-4292

AB The invention provides process of prepn. of **fusion protein** consists of cell membrane component such as chitin and cell toxic peptides. The fusion provided in this invention were able to specifically inhibits the growth of bacteria and fungi. The **fusion protein** can be used as **antibacterial** and antifungal agent.

L23 ANSWER 5 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:113902 HCAPLUS
DOCUMENT NUMBER: 132:304033
TITLE: A **protein** disulfide isomerase gene **fusion** expression system that increases the extracellular productivity of Bacillus brevis
AUTHOR(S): Kajino, Tsutomu; Ohto, Chikara; Muramatsu, Masayoshi; Obata, Shusei; Udaka, Shigezo; **Yamada, Yukio**; Takahashi, Haruo
CORPORATE SOURCE: Toyota Central Research and Development Laboratories, Inc., Nagakute, 480-1192, Japan
SOURCE: Applied and Environmental Microbiology (2000), 66(2), 638-642
CODEN: AEMIDF; ISSN: 0099-2240
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A versatile Bacillus brevis expression and secretion system was developed based on the use of fungal protein disulfide isomerase (PDI) as a gene fusion partner. Fusion with PDI increased the extracellular prodn. of heterologous proteins (light chain of IgG, 8-fold; geranylgeranyl pyrophosphate synthase, 12-fold). Linkage to PDI prevented the aggregation of the secreted proteins, resulting in high-level accumulation of **fusion proteins** in sol. and biol. active forms. Also, the disulfide isomerase activity of PDI in a **fusion protein** is responsible for the suppression of the aggregation of the protein with intradisulfide, whereas aggregation of the protein without intradisulfide was prevented even when the **protein** was **fused** to a mutant PDI whose two active sites were disrupted. This suggests that another PDI function, such as **chaperone**-like activity, synergistically prevented the aggregation of heterologous **proteins** in the PDI **fusion** expression system.
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:201564 HCAPLUS
DOCUMENT NUMBER: 130:278615
TITLE: Protein disulfide isomerase of Humicola insolens for preparation of **fusion proteins** with improved secretion efficiency and conformation
INVENTOR(S): Kashino, Tsutomu; Takahashi, Haruo; Asami, Osamu; **Yamada, Yukio**; Udaka, Shigezo
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Search completed by David Schreiber 308-4292

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11075879	A2	19990323	JP 1998-190234	19980706

PRIORITY APPLN. INFO.: JP 1997-182523 19970708

AB Described is a method of recombinant prepn. of a **protein** by **fusion** with a mol. **chaperone** Humicola insolens protein disulfide isomerase (PDI) to improve the protein secretion efficiency and to preserve the protein conformation. Prepn. of an Fab of monoclonal antibody to 11-deoxycortisol or geranylgeranyl pyrophosphate synthase as a **fusion protein** with PDI was demonstrated.

L23 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:512814 HCAPLUS
DOCUMENT NUMBER: 111:112814
TITLE: A laminin-pepsin fragment with cell attachment and neurite outgrowth activity at distinct sites
AUTHOR(S): Sephel, Gregory C.; Tashiro, Kenichiro; Sasaki, Makoto; Kandel, Susan; **Yamada, Yoshihiko**; Kleinman, Hynda K.
CORPORATE SOURCE: Lab. Dev. Biol. Anomal., Natl. Inst. Dent. Res., Bethesda, MD, 20892, USA
SOURCE: Developmental Biology (Orlando, FL, United States) (1989), 135(1), 172-81
CODEN: DEBIAO; ISSN: 0012-1606
DOCUMENT TYPE: Journal
LANGUAGE: English

AB It was found that laminin and a pepsin fragment of laminin (P-lam) contain distinct sites for HT-1080 human fibrosarcoma cell attachment and for neurite outgrowth activity of PC12 and NG108-15 cell lines. Redn. and alkylation of laminin and P-lam fragment **disulfide bonds**, in the absence of denaturing agents, markedly reduced the cell attachment activity without reducing the neurite outgrowth response. The P-lam fragment (.apprx.375 kDa) contained part of the cross region of laminin and a portion of the long arm, on the basis of recognition by antisera against laminin synthetic peptides and **fusion proteins**. Modification of arginine residues by cyclohexanedione also had no effect on neurite outgrowth but reduced HT-1080 cell adhesion. Modification of lysine residues by succinic and citraconic anhydride, however, abolished laminin neurite outgrowth but not cell attachment activity. Neurite outgrowth activity was recovered by reversing the lysine modification. These data support the existence on laminin of sep. sites for cell attachment and for neurite outgrowth.

L23 ANSWER 8 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:135736 BIOSIS
DOCUMENT NUMBER: PREV200000135736
TITLE: A **protein** disulfide isomerase gene **fusion** expression system that increases the extracellular productivity of Bacillus brevis.
AUTHOR(S): Kajino, Tsutomu (1); Ohto, Chikara; Muramatsu, Masayoshi; Obata, Shusei; Udaka, Shigezo; **Yamada, Yukio**; Takahashi, Haruo
CORPORATE SOURCE: (1) Toyota Central Research and Development Laboratories, Inc., Nagakute, Aichi, 480-1192 Japan
SOURCE: Applied and Environmental Microbiology., (Feb., 2000) Vol. 66, No. 2, pp. 638-642.
ISSN: 0099-2240.
DOCUMENT TYPE: Article
LANGUAGE: English

Search completed by David Schreiber 308-4292

SUMMARY LANGUAGE: English

AB We have developed a versatile Bacillus brevis expression and secretion system based on the use of fungal protein disulfide isomerase (PDI) as a gene fusion partner. Fusion with PDI increased the extracellular production of heterologous proteins (light chain of immunoglobulin G, 8-fold; geranylgeranyl pyrophosphate synthase, 12-fold). Linkage to PDI prevented the aggregation of the secreted proteins, resulting in high-level accumulation of **fusion proteins** in soluble and biologically active forms. We also show that the disulfide isomerase activity of PDI in a **fusion protein** is responsible for the suppression of the aggregation of the protein with intradisulfide, whereas aggregation of the protein without intradisulfide was prevented even when the **protein** was **fused** to a mutant PDI whose two active sites were disrupted, suggesting that another PDI function, such as **chaperone**-like activity, synergistically prevented the aggregation of heterologous **proteins** in the PDI **fusion** expression system.

L23 ANSWER 9 OF 12 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1989:475351 BIOSIS
DOCUMENT NUMBER: BA88:111111
TITLE: A LAMININ PEPSIN FRAGMENT WITH CELL ATTACHMENT AND NEURITE OUTGROWTH ACTIVITY AT DISTINCT SITES.
AUTHOR(S): SEPHEL G C; TASHIRO K-I; SASAKI M; KANDEL S; **YAMADA Y**; KLEINMAN H K
CORPORATE SOURCE: LAB. SERV. 113 ROOM A30, VA MED. CENT., 1310-24TH AVE., SOUTH NASHVILLE, TENN. 37203.
SOURCE: DEV BIOL, (1989) 135 (1), 172-181.
CODEN: DEBIAO. ISSN: 0012-1606.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Laminin is a large basement membrane glycoprotein which influences the behavior and morphology of a variety of cells. We have found that laminin and a pepsin fragment of laminin (P-lam) contain distinct sites for HT-1080 human fibrosarcoma cell attachment and for neurite outgrowth activity of PC12 and NF108-15 cell lines. Reduction and alkylation of laminin and P-lam fragment **disulfide bonds**, in the absence of denaturing agents, markedly reduced the cell attachment activity without reducing the neurite outgrowth response. The P-lam fragment (approximately 375 kDa) was found to contain part of the cross region of laminin and a portion of the long arm, on the basis of recognition by antisera against laminin synthetic peptides and **fusion proteins**. Modification of arginine residues by cyclohexane-dione also had no effect on neurite outgrowth but reduced HT-1080 cell adhesion. Modification of lysine residues by succinic and citraconic anhydride, however, abolished laminin neurite outgrowth but not cell attachment activity. Neurite outgrowth activity was recovered by reversing the lysine modification. These data support the existence on laminin of separate sites for cell attachment and for neurite outgrowth.

L23 ANSWER 10 OF 12 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 2000056732 EMBASE
TITLE: A **protein** disulfide isomerase gene **fusion** expression system that increases the extracellular productivity of Bacillus brevis.
AUTHOR: Kajino T.; Ohto C.; Muramatsu M.; Obata S.; Udaka S.; **Yamada Y.**; Takahashi H.
CORPORATE SOURCE: T. Kajino, Toyota Centr. Res./Devt. Lab., Inc., Nagakute, Aichi 480-1192, Japan. e0846@mosk.tytlabs.co.jp

Search completed by David Schreiber 308-4292

Mitra 09/864,169

SOURCE: Applied and Environmental Microbiology, (2000) 66/2 (638-642).
Refs: 22
ISSN: 0099-2240 CODEN: AEMIDF
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB We have developed a versatile Bacillus brevis expression and secretion system based on the use of fungal protein disulfide isomerase (PDI) as a gene fusion partner. Fusion with PDI increased the extracellular production of heterologous proteins (light chain of immunoglobulin G, 8-fold; geranylgeranyl pyrophosphate synthase, 12-fold). Linkage to PDI prevented the aggregation of the secreted proteins, resulting in high-level accumulation of **fusion proteins** in soluble and biologically active forms. We also show that the disulfide isomerase activity of PDI in a **fusion protein** is responsible for the suppression of the aggregation of the protein with intradisulfide, whereas aggregation of the protein without intradisulfide was prevented even when the **protein** was **fused** to a mutant PDI whose two active sites were disrupted, suggesting that another PDI function, such as **chaperone**-like activity, synergistically prevented the aggregation of heterologous **proteins** in the PDI **fusion** expression system.

L23 ANSWER 11 OF 12 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 89225336 EMBASE
DOCUMENT NUMBER: 1989225336
TITLE: A laminin-pepsin fragment with cell attachment and neurite outgrowth activity at distinct sites.
AUTHOR: Sephel G.C.; Tashiro K.-I.; Sasaki M.; Kandel S.; **Yamada Y.**; Kleinman H.K.
CORPORATE SOURCE: Laboratory of Developmental Biology and Anomalies, National Institute of Dental Research, NIH, Bethesda, MD 20892, United States
SOURCE: Developmental Biology, (1989) 135/1 (172-181).
ISSN: 0012-1606 CODEN: DEBIAO
COUNTRY: United States
DOCUMENT TYPE: Journal
FILE SEGMENT: 021 Developmental Biology and Teratology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Laminin is a large basement membrane glycoprotein which influences the behavior and morphology of a variety of cells. We have found that laminin and a pepsin fragment of laminin (P-lam) contain distinct sites for HT-1080 human fibrosarcoma cell attachment and for neurite outgrowth activity of PC12 and NG108-15 cell lines. Reduction and alkylation of laminin and P-lam fragment **disulfide bonds**, in the absence of denaturing agents, markedly reduced the cell attachment activity without reducing the neurite outgrowth response. The P-lam fragment (approximately 375 kDa) was found to contain part of the cross region of laminin and a portion of the long arm, on the basis of recognition by antisera against laminin synthetic peptides and **fusion proteins**. Modification of arginine residues by cyclohexanedione also had no effect on neurite outgrowth but reduced HT-1080 cell adhesion. Modification of lysine residues by succinic and citraconic anhydride, however, abolished laminin neurite outgrowth but not cell attachment activity. Neurite outgrowth activity was recovered by

reversing the lysing modification. These data support the existence om laminin of separate sites for cell attachment and for neurite outgrowth.

L23 ANSWER 12 OF 12 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 2000:113512 SCISEARCH
THE GENUINE ARTICLE: 280WC
TITLE: A **protein** disulfide isomerase gene **fusion** expression system that increases the extracellular productivity of Bacillus brevis
AUTHOR: Kajino T (Reprint); Ohto C; Muramatsu M; Obata S; Udaka S; **Yamada Y**; Takahashi H
CORPORATE SOURCE: TOYOTA CENT RES & DEV LABS INC, AICHI 4801192, JAPAN (Reprint); TOYOTA MOTOR CO LTD, BIO RES LAB, AICHI 4718572, JAPAN; TOKYO UNIV AGR & TECHNOL, DEPT FERMENTAT SCI, SETAGAYA KU, TOKYO 1568502, JAPAN
COUNTRY OF AUTHOR: JAPAN
SOURCE: APPLIED AND ENVIRONMENTAL MICROBIOLOGY, (FEB 2000) Vol. 66, No. 2, pp. 638-642.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW, WASHINGTON, DC 20005-4171.
ISSN: 0099-2240.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE; AGRI
LANGUAGE: English
REFERENCE COUNT: 22

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB We have developed a versatile Bacillus brevis expression and secretion system based on the use of fungal protein disulfide isomerase (PDI) as a gene fusion partner. Fusion with PDI increased the extracellular production of heterologous proteins (light chain of immunoglobulin G, 8-fold; geranylgeranyl pyrophosphate synthase, 12-fold). Linkage to PDI prevented the aggregation of the secreted proteins, resulting in high-level accumulation of **fusion proteins** in soluble and biologically active forms. We also show that the disulfide isomerase activity of PDI in a **fusion protein** is responsible for the suppression of the aggregation of the protein with intradisulfide, whereas aggregation of the protein without intradisulfide was prevented even when the **protein** was **fused** to a mutant PDI whose two active sites were disrupted, suggesting that another PDI function, such as **chaperone**-like activity, synergistically prevented the aggregation of heterologous **proteins** in the PDI **fusion** expression system.

```
=> d que l36
L1       189494 SEA (FUSION OR FUSED OR CHIMAER? OR CHIMER?)(3A) PROTEIN#
L2         9432 SEA (ANTIMICROB? OR ANTIBACTER? OR ANTIFUNG? OR ANTIPROTOZO?
                OR ANTIPARASIT?)(5A) PROTEIN#
L3          611 SEA (ANTI(A)(MICROB? OR BACTERI? OR FUNGUS OR FUNGAL OR
                PROTOZO? OR PARASIT?))(5A) PROTEIN#
L4         5425 SEA THIONIN#
L5        47076 SEA DISULFIDE(3A) BOND#
L6        50839 SEA ISOELECTRIC(3A) POINT#
L7        45268 SEA CHAPERON?
L8        16930 SEA THIOREDOXIN#
L9        21790 SEA REFOLD?
L10        6258 SEA DISULFIDE(3A) ISOMERASE#
L11         759 SEA INSOLENS
L12         625 SEA IMAEDA T?/AU
```

Search completed by David Schreiber 308-4292

Mitra 09/864,169

```
L13       27362 SEA YAMADA Y?/AU
L18       36276 SEA (L12 OR L13 OR L14 OR L15 OR L16 OR L17)
L19         117 SEA L18 AND L1
L20           7 SEA L19 AND L7
L21           5 SEA L19 AND L5
L22           2 SEA L19 AND (L2 OR L3)
L23          12 SEA (L20 OR L21 OR L22)
L24       15209 SEA (L2 OR L3 OR L4)
L25         234 SEA (L7 OR L8 OR L10) AND L6
L26           1 SEA L24 AND L25
L29          16 SEA L24 AND L9
L30          44 SEA L24 AND (L7 OR L8 OR L10)
L31          48 SEA L11 AND ISOMERASE#
L33           4 SEA L31 AND L1
L34          59 SEA L26 OR L29 OR L30 OR L33
L35          57 SEA L34 NOT L23
L36          43 DUP REM L35 (14 DUPLICATES REMOVED)


=> d ibib abs l36 1-43

L36  ANSWER 1 OF 43  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2003:242368  HCAPLUS
DOCUMENT NUMBER:          138:282426
TITLE:                    Cloning, purification and characterization of
                          polypeptides from pathogenic bacteria involved in
                          nucleic acid processing and drug screening and drug
                          design applications
INVENTOR(S):              Edwards, Aled; Dharamsi, Akil; Vedadi, Masoud; Alam,
                          Muhammad Zahoor; Arrowsmith, Cheryl; Awrey, Donald;
                          Beattie, Bryan; Canadien, Veronica; Cox, Brian;
                          Domagala, Megan; Houston, Simon; Li, Qin; Nethery,
                          Kathleen; Ng, Ivy; Ouyang, Hui; Pinder, Benjamin;
                          Sheldrick, Bay; Viola, Cristina; Wrezel, Olga
PATENT ASSIGNEE(S):       Affinium Pharmaceuticals, Inc., Can.
SOURCE:                   PCT Int. Appl., 298 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ---------------   ----  --------       ---------------   --------
     WO 2003025004      A2   20030327       WO 2002-CA1411    20020918
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
             RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
             NE, SN, TD, TG
PRIORITY APPLN. INFO.:                    US 2001-323040P  P  20010918
                                          US 2001-325307P  P  20010927
                                          US 2001-325421P  P  20010927
```

Search completed by David Schreiber 308-4292

US 2001-325891P P 20010928
US 2001-326337P P 20011001
US 2001-326774P P 20011003
US 2001-327193P P 20011004
US 2001-340922P P 20011030
US 2001-338709P P 20011105
US 2001-333269P P 20011106
US 2001-341679P P 20011218

AB The present invention relates to polypeptide targets for pathogenic bacteria. A no. of **antimicrobial** target enzymes and **proteins** have been identified, expressed, and purified from Staphylococcus aureus, Helicobacter pylori, Streptococcus pneumoniae, and Pseudomonas aeruginosa. Cloning, the nucleotide sequences and the encoded amino acid sequences of genes nrdE, pyrH, pnpA, ung, rho, pnp, pyrE, lig, dnaN, nrdF, and nrdE from S. aureus, H. pylori, S. pneumoniae, and P. aeruginosa are disclosed. The invention also provides biochem. and biophys. characteristics of those polypeptides. The polypeptides are characterized by using mass spectrometry, NMR, x-ray crystallog., and bioinformatics anal. The polypeptides of the invention can be used for drug screening, drug design, in diagnostic assays and in pharmacol. applications.

L36 ANSWER 2 OF 43 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2003089070 IN-PROCESS
DOCUMENT NUMBER: 22488603 PubMed ID: 12600207
TITLE: Structural Characterization of Hellethionins from Helleborus purpurascens.
AUTHOR: Milbradt Alexander G; Kerek Franz; Moroder Luis; Renner Christian
CORPORATE SOURCE: Max-Planck-Institut fur Biochemie and Donatur GmbH, 82152 Martinsried, Germany.
SOURCE: BIOCHEMISTRY, (2003 Mar 4) 42 (8) 2404-11. Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20030226
Last Updated on STN: 20030226

AB **Thionins** are relatively small-sized multiple-cystine peptides that are probably involved in the plant defense against pathogens. As such, these peptides constitute promising candidates for engineered plant resistance in the agricultural industry. More recently, **thionins** have been proposed as potential immunotoxins in tumor therapy. In the search for pharmacologically active natural products, a new family of **thionins** was recently discovered in the roots of Helleborus purpurascens that accordingly were termed hellethionins. The structural characterization by NMR of one representative member of this family, i.e., of hellethionin D, clearly reveals that **thionins** from different sources share a highly conserved overall fold. In fact, the well-defined 3D structure of hellethionin D is very similar to those reported so far for viscotoxins, purothionins, or crambin, although distinct differences could be detected in the C-terminal portion, especially for loop 36-39. These differences may derive from the unusual distribution of charged residues in the C-terminal half of the peptide sequence compared to other **thionins** and from the uncommon occurrence of four contiguous threonine residues in loop 36-39. As expected, reduction of the disulfide bonds in hellethionin D leads to complete unfolding, but upon oxidative **refolding** by air oxygen in the presence of glutathione the correct

isomer is recovered in high yields, confirming the very robust fold of this class of bioactive cystine peptides.

L36 ANSWER 3 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:98198 HCAPLUS
DOCUMENT NUMBER: 138:186076
TITLE: Productive Folding of Human Neutrophil .alpha.-Defensins in Vitro without the Pro-peptide
AUTHOR(S): Wu, Zhibin; Powell, Robert; Lu, Wuyuan
CORPORATE SOURCE: Institute of Human Virology, University of Maryland, Baltimore, MD, 21201, USA
SOURCE: Journal of the American Chemical Society (2003), 125(9), 2402-2403
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Human neutrophil .alpha.-defensins (HNPs) are small, Cys-rich, cationic **antimicrobial proteins**. Stored in the azurophilic granules of neutrophils, they are released during phagocytosis to kill ingested foreign microbes through disruption of their cytoplasmic membrane. Recently, the three most abundant forms of human .alpha.-defensins, HNPs 1-3, have been implicated in suppressing HIV-1 infection in vivo, thereby exhibiting a potential therapeutic value in the treatment of AIDS. HNPs are synthesized as inactive precursors in vivo and require proteolytic removal of their inhibitory N-terminal pro-peptide for activation. Folding of HNPs 1-3 in vitro without the pro-peptide has been reported to be extremely difficult, which led to the hypothesis that the 45-residue anionic pro-peptide may assist proHNPs folding as an intramol. **chaperone** interacting with the cationic C-terminal domain, a mechanism reminiscent of some bacterial serine proteases. Here we show that HNPs without the pro-region can fold productively with yields over 80% in the presence of 2 M urea and 25% N,N-dimethylformamide (DMF). Our finding demonstrates an efficient protocol for the prodn. of large quantities of highly pure human .alpha.-defensins and is broadly applicable in folding aggregation-prone, Cys-rich proteins of both synthetic and recombinant origin.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 4 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:31200 HCAPLUS
DOCUMENT NUMBER: 136:82297
TITLE: Screening for **antifungal** compounds using essential **proteins** identified in Candida albicans and Saccharomyces cerevisiae
INVENTOR(S): Moore, Jeffrey; Buurman, Ed T.; Desilva, Thamare; Harris, Sandra; Komarnitsky, Svetlana; Mendillo, Marc; Moore, Daniel; McCoy, Melissa; Sanderson, Karen; Haq, Tariq; Zhu, Shuhao; Long, Fan; Davidov, Eugene; Thompson, Craig M.
PATENT ASSIGNEE(S): Anadys Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 522 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

Search completed by David Schreiber 308-4292

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002002055	A2	20020110	WO 2001-US20592	20010628
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001073052	A5	20020114	AU 2001-73052	20010628
US 2003027243	A1	20030206	US 2001-893519	20010628
PRIORITY APPLN. INFO.:			US 2000-215164P	P 20000629
			US 2000-224457P	P 20000810
			WO 2001-US20592	W 20010628

AB The invention provides screening methods for detecting and identifying compds. that bind to fungal-specific target proteins and nucleic acids, as well as compds. which, upon binding or otherwise interacting with the target protein, can inhibit fungal growth. A method of preventing or inhibiting fungal growth in culture, a method of preventing or inhibiting fungal growth in a mammal, and a method of studying pathogenic mycetes using such nucleic acid and/or protein sequences are also provided. Particularly preferred is the inhibition of the fungus Candida albicans. Thus, 26 essential proteins are identified using S. cerevisiae inactivation anal., C. albicans deletion anal., and mammalian cell cytotoxicity screens. The essential proteins may be used in high-throughput methods for screening inhibitors, phage display technol. screening, and other screening techniques.

L36 ANSWER 5 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:778631 HCAPLUS
DOCUMENT NUMBER: 137:290038
TITLE: Nucleic acids and proteins from Chlamydia trachomatis and methods for treatment and diagnosis of chlamydial infection
INVENTOR(S): Bhatia, Ajay; Probst, Peter
PATENT ASSIGNEE(S): Corixa Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 42 pp., Cont.-in-part of U.S. Ser. No. 841,260.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002146776	A1	20021010	US 2001-7693	20011205
PRIORITY APPLN. INFO.:			US 2000-198853P	P 20000421
			US 2000-219752P	P 20000720
			US 2001-841260	A2 20010423

AB Nucleic acid and protein compds. and methods for the diagnosis and treatment of chlamydial infection are disclosed. The compds. provided include polypeptides that contain at least one antigenic portion of a Chlamydia antigen and genomic DNA sequences encoding such polypeptides from C. trachomatis serovar E and serovar D. Pharmaceutical compns. and vaccines comprising such polypeptides or DNA sequences are also provided,

together with antibodies directed against such polypeptides. Diagnostic kits contg. such polypeptides or DNA sequences and a suitable detection reagent may be used for the detection of chlamydial infection in patients and in biol. samples. The present invention claims SEQ IDs 1-48, 80-109, and 114-157, but the Sequence Listing was not made available on publication of the patent application.

L36 ANSWER 6 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:505237 HCAPLUS
DOCUMENT NUMBER: 137:62166
TITLE: Engineered pilus proteins for vaccination and immunotherapy
INVENTOR(S): Hultgren, Scott J.; Langermann, Solomon; Sauer, Frederic G.
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 27 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002086037	A1	20020704	US 2001-27350	20011228
WO 2002059156	A2	20020801	WO 2001-US51037	20011220

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-257880P P 20001222
AB The authors disclose construction of pilus proteins exhibiting structural stabilization. Stabilization is achieved by occupation of the subunit-binding site by a covalently attached N-terminal extension domain or non-covalently by an engineered **chaperone** or other pilus protein. Such extension provides a "donor strand complementary" segment which may be altered to attach an auxiliary portion.

L36 ANSWER 7 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-732792 [79] WPIDS
DOC. NO. CPI: C2002-207369
TITLE: New denaturant (e.g. boiling or detergent) stable and/or protease resistant, **chaperone**-like oligomeric proteins, useful for inducing wound healing, grooming nail or skin, or engineering plants that are tolerant to (a)biotic stress.
DERWENT CLASS: B04 D16
INVENTOR(S): ALEGRAND, T; ALTMAN, A; PELAH, D; SHOSEYOV, O; WANG, W
PATENT ASSIGNEE(S): (YISS) YISSUM RES DEV CO HEBREW UNIV JERUSALEM
COUNTRY COUNT: 100
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

Search completed by David Schreiber 308-4292

WO 2002070647 A2 20020912 (200279)* EN 164
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002070647 A2		WO 2002-IL174	20020305

PRIORITY APPLN. INFO: US 2001-272771P 20010305
AN 2002-732792 [79] WPIDS
AB WO 200270647 A UPAB: 20021209
NOVELTY - Polypeptides (I), which comprise a denaturant stable (e.g. boiling stable (BS) and/or detergent stable (DS)) polypeptide and/or protease resistant (PR) polypeptide, with **chaperon**-like activity, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) isolated nucleic acids (II) comprising:

(a) a first polynucleotide encoding the BS, DS or PR proteins described above; and

(b) a second polynucleotide including a promoter sequence operably linked to the first polynucleotide for directing an expression of the BS, DS or PR proteins;

(2) nucleic acid constructs (III) comprising (II);

(3) cells (IV) transformed with (II);

(4) organisms (V) transformed with (II);

(5) antibodies (VI) recognizing at least one epitope of (I);

(6) isolating (M1) a gene encoding the BS, DS or PR proteins with **chaperone**-like activity from a biological source by screening an expression library with a polynucleotide encoding the BS, DS or PR proteins, or with (VI);

(7) preventing (M2) an aggregating protein from forming an aggregate by contacting the aggregating protein with the BS, DS or PR polypeptide;

(8) stabilizing (M3) a protein against denaturing conditions by contacting the protein with the BS, DS or PR polypeptide;

(9) de-aggregating (M4) aggregates of an aggregating protein by contacting the aggregate with the BS, DS or PR polypeptide;

(10) enriching (M5) or isolating a denaturant stable and/or PR protein with **chaperone**-like activity;

(11) isolating (M6) a gene encoding a denaturant stable and/or PR protein with **chaperone**-like activity;

(12) identifying (M7) a nucleic acid potentially encoding a denaturant stable and/or PR protein with **chaperone**-like activity;

(13) detergent-free isolation (M8) of a protease-resistant protein with **chaperone**-like activity;

(14) a fusion protein (VII) comprising the denaturant stable and/or PR polypeptide with **chaperone**-like activity fused to an additional polypeptide;

(15) protecting (M9) an enzyme preparation from reduction in enzymatic activity;

(16) repairing (M10) at least a portion of lost enzymatic activity of an enzyme preparation;

(17) administering (M11) a polypeptide to animal's immune system, while reducing an immune response against the polypeptide;

(18) a transgenic plant (VIII) expressing the denaturant stable and/or PR protein with a **chaperone**-like activity above the natural amount in the plant;

(19) rendering (M12) a plant more tolerant to or recoverable from a biotic or abiotic stress;

(20) increasing (M13) cell migration, accelerating or inducing wound healing, or strengthening or grooming hair, nail or skin;

(21) a pharmaceutical composition (IX) comprising, as an active ingredient, the denaturant stable and/or PR protein with **chaperone** -like activity, and a carrier;

(22) isolating (M14) a BS protein with **chaperone**-like activity;

(23) increasing (M15) a binding avidity of a binding molecule; and

(24) a hetero complex (X) comprising an oligomer including several denaturant stable and/or PR protein with **chaperone**-like activity, and at least two different molecules fused to the oligomer.

ACTIVITY - Antiaggregant; Vulnerary; Dermatological; Plant protectant.

No biological data given.

MECHANISM OF ACTION - Gene therapy.

USE - The BS, DS or PR polypeptides are useful for preventing an aggregating protein from forming an aggregate. Alternatively, these BS, DS or PR polypeptides are useful for de-aggregating aggregates of an aggregating protein. These polypeptides are also useful for stabilizing a protein against denaturing conditions. These denaturant stable proteins or PR polypeptides are also useful for increasing cell migration, accelerating or inducing wound healing, or strengthening or grooming hair, nail or skin. These proteins are also useful for treating a disease associated with protein aggregation of an aggregating protein (e.g. beta-amyloid or prion). The denaturant stable or PR polynucleotides are useful for engineering plants to be more tolerant to or recoverable from a biotic or abiotic stress. The fusion protein is useful for immunizing a mammal (all claimed). These proteins and polynucleotides are also useful for stabilizing, refolding, repairing, preventing aggregation and de-aggregating macromolecules such as proteins.

Dwg.0/25

L36 ANSWER 8 OF 43 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-508806 [54] WPIDS

DOC. NO. CPI: C2002-144732

TITLE: Producing oil body associated with recombinant multimeric protein complex e.g. redox proteins and immunoglobulins comprises producing recombinant polypeptides capable of forming the complex in cells comprising oil bodies.

DERWENT CLASS: B04 D13 D16 D21

INVENTOR(S): BRIGGS, S P; DALMIA, B K; DECKERS, H; DEL VAL, G; HEIFETZ, P B; MOLONEY, M; VAN ROOIJEN, G; ZAPLACHINSKI, S

PATENT ASSIGNEE(S): (SEMB-N) SEMBIOSYS GENETICS INC; (SYGN) SYNGENTA PARTICIPATIONS AG

COUNTRY COUNT: 100

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002050289	A1	20020627	(200254)*	EN	362

Search completed by David Schreiber 308-4292

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT
RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
ZW
AU 2002032819 A 20020701 (200264)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002050289 A1		WO 2001-US50240	20011219
AU 2002032819 A		AU 2002-32819	20011219

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002032819 A	Based on	WO 200250289

PRIORITY APPLN. INFO: US 2001-6038 20011204; US 2000-742900 20001219; US 2001-302885P 20010705

AN 2002-508806 [54] WPIDS

AB WO 200250289 A UPAB: 20021031

NOVELTY - Producing (M1) an oil body associated with a recombinant multimeric protein complex (MPC) comprising producing in a cell comprising oil bodies a first and second recombinant polypeptide (P1, P2), where P1 is capable of associating with P2 to form the MPC and associating the complex with an occlusion body (OB) through an OB-targeting-protein capable of associating with OB and P1, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) expressing (M2) a recombinant MPC comprising P1 and P2 in a cell;

(2) producing in a plant cell a recombinant MPC;

(3) a chimeric nucleic acid (NA) sequence (I) encoding a multimeric-fusion protein, comprising operably linked in reading frame, a first NA sequence encoding an OB-targeting-protein, NA sequences encoding P1 and P2;

(4) a recombinant multimeric fusion protein (II) comprising an OB-targeting-protein, or its fragment, P1 and P2 capable of forming MPC;

(5) isolated oil bodies (III) comprising a MPC comprising an OB-targeting-protein and a P1, the OB further comprising P2;

(6) isolated oil bodies (IV) comprising a first fusion protein comprising a first OB-targeting-protein fused to P1, and a second fusion protein comprising a second OB-targeting-protein fused to P2;

(7) a cell (V) comprising oil bodies and an OB-targeting-protein, P1 and P2;

(8) a plant comprising (V);

(9) a safflower plant comprising (V);

(10) a composition (VI) comprising isolated oil bodies, **thioredoxin** and **thioredoxin**-reductase;

(11) a food product, personal care product or a pharmaceutical composition comprising (VI);

(12) preparing (M3) an (enzymatically active) redox protein associated with oil bodies;

(13) a chimeric NA (VII) comprising a NA sequence capable of regulating transcription in a host cell operatively linked to a second NA sequence encoding a recombinant fusion polypeptide comprising a NA

sequence encoding an OB-protein to provide targeting of the recombinant fusion polypeptide to an OB linked to a NA sequence encoding a redox fusion polypeptide comprising a redox protein linked to second redox protein, operatively linked to a third NA sequence capable of terminating transcription in the cell;

(14) a transgenic plant or safflower plant comprising (VII);

(15) a plant seed comprising (VII);

(16) an oil body preparation obtained by (M3);

(17) a food product, detergent composition or a personal care product comprising the above oil body preparation;

(18) a composition comprising the preparation;

(19) a product (VIII) capable of treating oxidative stress in a target or chemically reducing a target, comprising the preparation;

(20) an emulsion prepared by the formulating an emulsion of oil bodies associated with redox fusion polypeptide prepared by (M3);

(21) a NA construct (IX) comprising a gene fusion comprising a region encoding an OB-protein or its active fragment, linked to another region encoding **thioredoxin**-related protein or its active fragment;

(22) a transgenic plant comprising (IX);

(23) a transgenic plant comprising (IX) and a seed-specific promoter operably linked to a gene fusion;

(24) a seed of the transgenic plant;

(25) an extract or OB from the seed;

(26) oil produced from the seed;

(27) oil bodies in association with a fusion protein, obtained by using (IX);

(28) a composition (X) comprising a fusion protein comprising an OB-protein and a thioredoxin-related protein or its active fragment;

(29) a cosmetic formulation comprising oil bodies associated with a fusion protein as above; and

(30) a NA construct comprising a gene fusion having a first region encoding an OB-protein or its fragment, operably linked to a second region encoding at least one polypeptide or its fragment, an OB-surface avoiding linker in frame between P1 and P2.

ACTIVITY - Ophthalmological; Antidiabetic; Cytostatic; Antipsoriatic; Vasotropic; Vulnerary; Antibacterial; Immunosuppressive; Antiulcer.

No suitable data given.

MECHANISM OF ACTION - Protects target against oxidative-stress.

USE - (M1) is useful for producing an oil body associated with a recombinant MPC. The oil bodies are further formulated for use in the preparation of a food product such as milk or wheat based food product, personal care product which reduces the oxidative stress on the surface area of the human body or used to lighten the skin, or a pharmaceutical composition used to treat chronic obstructive pulmonary disease (COPD), cataracts, diabetes, envenomation, bronchiopulmonary disease, malignancies, psoriasis, reperfusion injury, wound healing, sepsis, gastro intestinal (GI) bleeding, intestinal bowel disease (IBD), ulcers, GERD (gastro esophageal reflux disease). (III) or oil bodies associated with a fusion protein, is useful for reducing allergenicity of a food, including wheat flour, wheat dough, milk, cheese, yogurt and ice cream, by adding the isolated antibodies and NADH as a co-factor in the substantial absence of NADPH. (II) and (X) are useful for treating or protecting a target, preferably a molecule, molecular complex, cell, tissue, or an organ against oxidative stress. (VIII) is useful for cleansing an item. (IX) is useful for producing a fusion protein comprising thioredoxin related activity, by introducing the construct into a transgenic plant, obtaining seeds from the plant and recovering the fusion protein by isolating oil bodies from the seeds (all claimed).

Dwg.0/5

L36 ANSWER 9 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-636125 [68] WPIDS
CROSS REFERENCE: 2000-499326 [44]
DOC. NO. CPI: C2002-179368
TITLE: Reduction of allergenicity of a protein in food, e.g. wheat, comprises reducing the protein containing disulfide bonds with **thioredoxin**, nicotinamide adenine dinucleotide phosphate-**thioredoxin** reductase or dithiothreitol.
DERWENT CLASS: B03 C02 D13
INVENTOR(S): BUCHANAN, B B; FRICK, O L; MORIGASAKI, S; VAL, G D; DEL VAL, G
PATENT ASSIGNEE(S): (BUCH-I) BUCHANAN B B; (FRIC-I) FRICK O L; (MORI-I) MORIGASAKI S; (VALG-I) VAL G D; (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 99
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 2002098277	A1	20020725	(200268)*		81
WO 2002062370	A2	20020815	(200268)	EN	

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2002098277	A1 CIP of	US 1999-238379	19990127
		US 2001-779375	20010207
WO 2002062370	A2	WO 2002-US3936	20020206

PRIORITY APPLN. INFO: US 2001-779375 20010207; US 1999-238379 19990127
AN 2002-636125 [68] WPIDS
CR 2000-499326 [44]
AB US2002098277 A UPAB: 20021022
NOVELTY - Method (I) of decreasing allergenicity of an allergenic protein, comprises:
(A) reducing the protein containing disulfide bonds;
(B) reacting the protein with physiological disulfide to prevent the reoxidation; and
(C) administering the protein to an animal.
DETAILED DESCRIPTION - Method (I) of decreasing allergenicity of an allergenic protein, comprises:
(A) reducing the protein containing disulfide bonds with **thioredoxin**, nicotinamide adenine dinucleotide phosphate (NADPH)-**thioredoxin** reductase or dithiothreitol (except for allergenic food);
(B) reacting the protein with physiological disulfide to prevent the reoxidation of at least one of the reduced disulfide bonds to stabilize the protein; and
(C) administering the protein to an animal.

An INDEPENDENT CLAIM is also included for increasing digestibility of a food by pepsin involving contacting the food having at least one protein containing disulfide bonds with lipoic acid, followed by steps (A) and (B).

ACTIVITY - Antiallergic.

No biological data available.

MECHANISM OF ACTION - None given.

USE - (I) is used for decreasing allergenicity of an allergenic protein in an allergenic food, e.g. cow's milk, egg, soy, rice, wheat, barley peanut, or pollen protein (claimed), for reducing non **thionin** cystine containing protein, to reduce glutenins or gliadins present in flour or seeds.

(I) is also used in immunotherapy, in allergy tests to determine whether or not an allergen for a particular individual is a disulfide protein, for reducing enzyme inhibitor protein, for inactivating, in vitro a snake neurotoxin having at least one intramolecular cystine and for treating venom toxicity in an individual.

ADVANTAGE - (I) increases pepsin digestibility of a protein and a food containing the protein and improves dough strength and baked goods characteristics, e.g. better crumb quality, softness of the baked good and higher loaf volume.

(I) also provides stable hypoallergenic and hyperdigestible edible food or food protein, reduces an animal venom toxic protein having at least one intramolecular cystine and provides genetically engineered yeast cells.

Dwg.0/27

L36 ANSWER 10 OF 43 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:723182 HCAPLUS

DOCUMENT NUMBER: 138:297081

TITLE: Identification of crucial residues for the antibacterial activity of the proline-rich peptide, pyrrhocoricin

AUTHOR(S): Kragol, Goran; Hoffmann, Ralf; Chattergoon, Michael A.; Lovas, Sandor; Cudic, Mare; Bulet, Philippe; Condie, Barry A.; Rosengren, K. Johan; Montaner, Luis J.; Otvos, Laszlo, Jr.

CORPORATE SOURCE: The Wistar Institute, Philadelphia, PA, 19104, USA

SOURCE: European Journal of Biochemistry (2002), 269(17), 4226-4237
CODEN: EJBCAI; ISSN: 0014-2956

PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Members of the proline-rich antibacterial peptide family, pyrrhocoricin, apidaecin and drosocin appear to kill responsive bacterial species by binding to the multihelical lid region of the bacterial DnaK protein. Pyrrhocoricin, the most potent among these peptides, is nontoxic to healthy mice, and can protect these animals from bacterial challenge. A structure-antibacterial activity study of pyrrhocoricin against Escherichia coli and Agrobacterium tumefaciens identified the N-terminal half, residues 2-10, the region responsible for inhibition of the ATPase activity, as the fragment that contains the active segment. While fluorescein-labeled versions of the native peptides entered E. coli cells, deletion of the C-terminal half of pyrrhocoricin significantly reduced the peptide's ability to enter bacterial or mammalian cells. These findings highlighted pyrrhocoricin's suitability for combating intracellular pathogens and raised the possibility that the proline-rich antibacterial peptides can deliver drug leads into mammalian cells. By observing strong

relationships between the binding to a synthetic fragment of the target **protein** and **antibacterial** activities of pyrrhocoricin analogs modified at strategic positions, we further verified that DnaK was the bacterial target macromol. In addn., the antimicrobial activity spectrum of native pyrrhocoricin against 11 bacterial and fungal strains and the binding of labeled pyrrhocoricin to synthetic DnaK D-E helix fragments of the appropriate species could be correlated. Mutational anal. on a synthetic E. coli DnaK fragment identified a possible binding surface for pyrrhocoricin.

REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 11 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:497557 HCAPLUS
DOCUMENT NUMBER: 137:28862
TITLE: Coding sequence divergence between closely related plant species Arabidopsis thaliana and Brassica rapa pekinensis
AUTHOR(S): Tiffin, Peter; Hahn, Matthew W.
CORPORATE SOURCE: Department of Ecology and Evolutionary Biology, University of California at Irvine, Irvine, CA, 92664, USA
SOURCE: Journal of Molecular Evolution (2002), 54(6), 746-753
CODEN: JMEVAU; ISSN: 0022-2844
PUBLISHER: Springer-Verlag New York Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To characterize the coding-sequence divergence of closely related genomes, DNA sequence divergence was compared between sequences from a Brassica rapa ssp. pekinensis EST library isolated from flower buds and genomic sequences from Arabidopsis thaliana. The specific objectives were (i) to det. the distribution of and relationship between Ka and Ks, (ii) to identify genes with the lowest and highest Ka:Ks values, and (iii) to evaluate how codon usage has diverged between two closely related species. The distribution of Ka:Ks was unimodal, and substitution rates were more variable at nonsynonymous than synonymous sites; no evidence was detected that Ka and Ks were pos. correlated. Several genes had Ka:Ks values equal to or near zero, as expected for genes that have evolved under strong selective constraint. In contrast, there were no genes with Ka:Ks > 1 and thus no strong evidence that any of the 218 sequences analyzed have evolved in response to pos. selection. A stronger codon bias but a lower frequency of GC at synonymous sites was detected in A. thaliana than B. rapa. Moreover, there has been a shift in the profile of most commonly used synonymous codons since these two species diverged from one another. This shift in codon usage may have been caused by stronger selection acting on codon usage or by a shift in the direction of mutational bias in the B. rapa phylogenetic lineage.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 12 OF 43 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2002410768 MEDLINE
DOCUMENT NUMBER: 22154932 PubMed ID: 12165037
TITLE: Ion channel formation and membrane-linked pathologies of misfolded hydrophobic proteins: the role of dangerous unchaperoned molecules.
AUTHOR: Kourie Joseph I; Henry Christine L
CORPORATE SOURCE: Membrane Transport Group, Department of Chemistry, The Faculties, The Australian National University, Science

Search completed by David Schreiber 308-4292

Road, Canberra, ACT 0200, Australia..
joseph.kourie@@anu.edu.au
SOURCE: CLINICAL AND EXPERIMENTAL PHARMACOLOGY AND PHYSIOLOGY, (2002 Sep) 29 (9) 741-53. Ref: 84
Journal code: 0425076. ISSN: 0305-1870.
PUB. COUNTRY: Australia
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200302
ENTRY DATE: Entered STN: 20020808
Last Updated on STN: 20030206
Entered Medline: 20030205

AB 1. Protein-membrane interaction includes the interaction of proteins with intrinsic receptors and ion transport pathways and with membrane lipids. Several hypothetical interaction models have been reported for peptide-induced membrane destabilization, including hydrophobic clustering, electrostatic interaction, electrostatic followed by hydrophobic interaction, wedge x type incorporation and hydrophobic mismatch. 2. The present review focuses on the hypothesis of protein interaction with lipid membranes of those unchaperoned positively charged and misfolded proteins that have hydrophobic regions. We advance the hypothesis that protein misfolding that leads to the exposure of hydrophobic regions of proteins renders them potentially cytotoxic. Such proteins include prion, amyloid beta protein (AbetaP), amylin, calcitonin, serum amyloid and C-type natriuretic peptides. These proteins have the ability to interact with lipid membranes, thereby inducing membrane damage and cell malfunction. 3. We propose that the most significant mechanism of membrane damage induced by hydrophobic misfolded proteins is mediated via the formation of ion channels. The hydrophobicity based toxicity of several proteins linked to neurodegenerative pathologies is similar to those observed for **antibacterial** toxins and viral **proteins**. 4. It is hypothesized that the membrane damage induced by amyloids, **antibacterial** toxins and viral **proteins** represents a common mechanism for cell malfunction, which underlies the associated pathologies and cytotoxicity of such proteins.

L36 ANSWER 13 OF 43 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 2002495853 IN-PROCESS
DOCUMENT NUMBER: 22244734 PubMed ID: 12356486
TITLE: Construction, non-denaturing affinity purification, and characterization of baculovirally expressed human secretory leukocyte protease inhibitor.
AUTHOR: Gray Laurie R; Alexander Audrey L; Shugars Diane C
CORPORATE SOURCE: Dental Research Center, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-7455, USA.
CONTRACT NUMBER: R01-DE-12162 (NIDCR)
SOURCE: PROTEIN EXPRESSION AND PURIFICATION, (2002 Oct) 26 (1) 179-86.
Journal code: 9101496. ISSN: 1046-5928.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
ENTRY DATE: Entered STN: 20021002
Last Updated on STN: 20021213
AB Secretory leukocyte protease inhibitor (SLPI) is a 11.7 kDa mucosal

protein with potent **anti-microbial**, **anti**-inflammatory, and wound healing activities. Previous efforts to express and purify the non-glycosylated cationic protein as a recombinant protein in bacteria required extensive denaturation and renaturation to **refold** the disulfide-rich protein into its biologically active form. To overcome this limitation, we have expressed human SLPI as a polyhistidine-tagged protein (bvHisSLPI) using a recombinant baculovirus expression system. Studies were conducted to determine the timing of maximal protein production following baculovirus infection of Sf21 cells. The 16.4kDa-tagged protein was then overexpressed in Sf21 cells following a 48-h infection with bvHisSLPI-encoding baculovirus, purified by nickel-chelating affinity chromatography under non-denaturing conditions, and analyzed by Coomassie-stained SDS-polyacrylamide gel electrophoresis (SDS-PAGE) and Western blot. Purified bvHisSLPI was further characterized by enterokinase digestion to remove the polyhistidine tag from its N-terminus. In serine protease inhibition assays, purified bvHisSLPI blocked substrate cleavage by two serine proteases, chymotrypsin and cathepsin G, comparable to bacterially expressed SLPI. The baculovirus expression and affinity purification strategy described here will facilitate further studies of the structural and biological properties of this important multifunctional protein.

L36 ANSWER 14 OF 43 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 4
ACCESSION NUMBER: 2001:713514 HCAPLUS
DOCUMENT NUMBER: 135:268119
TITLE: Transgenic plants containing heat shock protein Hsp100 and its uses in increasing thermo tolerance of plants and generating products
INVENTOR(S): Lindquist, Susan; Queitsch, Christine; Vierling, Elizabeth
PATENT ASSIGNEE(S): Arch Development Corporation, USA
SOURCE: PCT Int. Appl., 91 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070929	A2	20010927	WO 2001-US8836	20010320
WO 2001070929	A3	20020314		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001047587	A5	20011003	AU 2001-47587	20010320
US 2002053097	A1	20020502	US 2001-812350	20010320

PRIORITY APPLN. INFO.:
US 2000-190769P P 20000320
US 2000-198116P P 20000418
WO 2001-US8836 W 20010320

AB A transgenic plant having increased stress tolerance, such as thermo tolerance, comprises a Hsp 100 family nucleic acid sequence. The

invention is also directed to methods of producing products from transgenic Hsp 100 plants. Successful use of this method has been demonstrated in cereal, grass, an ornamental plant, a crop plant, a food plant, an oil-producing plant, a synthetic product-producing plant, an environmental waste-absorbing plant, an alc. producing plant, a medicinal plant, a recreational plant and an animal feed plant.

L36 ANSWER 15 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:598194 HCAPLUS
DOCUMENT NUMBER: 135:194486
TITLE: Modulating immunogenic response by modification of T-cell epitopes of the immunogenic proteins and its uses
INVENTOR(S): Estell, David A.; Harding, Fiona A.
PATENT ASSIGNEE(S): Genencor International, Inc., USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001059130	A2	20010816	WO 2001-US2204	20010122
WO 2001059130	A3	20020307		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1254240	A2	20021106	EP 2001-908667	20010122
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 2000-500135 A 20000208
WO 2001-US2204 W 20010122

AB The invention discloses methods of identifying T-cell epitopes of proteins which produce immunogenic responses as desired and modulation of immunogenic responses by modifying these epitopes. Specifically, the invention relates to neutralizing or reducing the ability of T-cells to recognize epitopes of these proteins and thus prevent sensitization of an individual to the protein. Alternatively, T-cell epitopes are mutated to produce altered immunogenic reactions. Moreover, naturally occurring proteins are provided and methods of using these proteins are also disclosed.

L36 ANSWER 16 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:507784 HCAPLUS
DOCUMENT NUMBER: 135:102548
TITLE: Antisense antibacterial cell division composition and method
INVENTOR(S): Iversen, Patrick L.
PATENT ASSIGNEE(S): Avi Biopharma, Inc., USA
SOURCE: PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001049775	A2	20010712	WO 2001-US222	20010104
WO 2001049775	A3	20020321		
W: AU, CA, JP, KR				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1248813	A2	20021016	EP 2001-900867	20010104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				

PRIORITY APPLN. INFO.: US 2000-174484P P 20000104
WO 2001-US222 W 20010104

AB Antisense oligomers directed to bacterial cell division and cell cycle-encoding nucleic acids are capable of selectively modulating the biol. activity thereof, and are useful in treatment and prevention of bacterial infection. The antisense oligomers are substantially uncharged, and contain 8-40 nucleotide subunits, including a targeting nucleic acid sequence at least 10 nucleotides in length which is effective to hybridize to (i) a bacterial tRNA or (ii) a target sequence, contg. a translational start codon, within a bacterial nucleic acid which encodes a protein assocd. with cell division or the cell cycle. Such proteins include zipA, sulA, secA, dicA, dicB, dicC, dicF, ftsA, ftsI, ftsN, ftsK, ftsL, ftsQ, ftsW, ftsZ, murC, murD, murE, murF, murG, minC, minD, minE, mraY, mraW, mraZ, seqA, ddlB, carbamate kinase, D-Ala-D-Ala ligase, topoisomerase, alkyl hydroperoxide reductase, **thioredoxin** reductase, dihydrofolate reductase, and cell wall enzyme. A method of prepg. vaccines against selected bacteria is also disclosed.

L36 ANSWER 17 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:168116 HCAPLUS
DOCUMENT NUMBER: 134:218019
TITLE: Thirty-seven Staphylococcus aureus genes and proteins with diagnostic and therapeutic uses
INVENTOR(S): Choi, Gil H.
PATENT ASSIGNEE(S): Human Genome Sciences, Inc., USA
SOURCE: PCT Int. Appl., 225 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016292	A2	20010308	WO 2000-US23773	20000831
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

Search completed by David Schreiber 308-4292

EP 1233974 A2 20020828 EP 2000-961415 20000831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL
US 2002103338 A1 20020801 US 2001-925637 20010810
US 2003049648 A1 20030313 US 2002-84205 20020228
PRIORITY APPLN. INFO.: US 1999-151933P P 19990901
US 1996-9861P P 19960105
US 1997-781986 A2 19970105
US 1997-956171 A2 19971020
WO 2000-US23773 W 20000831

AB The present invention relates to 37 novel genes from Staphylococcus aureus strain ISP3 (ATCC 202108) and the polypeptides they encode. Also provided as are vectors, host cells, antibodies and recombinant methods for producing the same. The invention further relates to screening methods for identifying agonists and antagonists of S. aureus polypeptide activity. The invention addnl. relates to diagnostic methods for detecting Staphylococcus nucleic acids, polypeptides and antibodies in a biol. sample. The present invention further relates to novel vaccines for the prevention or attenuation of infection by Staphylococcus.

L36 ANSWER 18 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:114938 HCAPLUS
DOCUMENT NUMBER: 134:173013
TITLE: Anti-bacterial compounds directed against pilus biogenesis, adhesion and activity; co-crystals of pilus subunits and methods of use thereof
INVENTOR(S): Hultgren, Scott J.; Sauer, Frederic G.; Waksman, Gabriel; Fuetterer, Klaus
PATENT ASSIGNEE(S): Washington University, USA
SOURCE: PCT Int. Appl., 144 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001010386	A2	20010215	WO 2000-US22087	20000811
WO 2001010386	A3	20010802		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 2000074703 A5 20010305 AU 2000-74703 20000811
PRIORITY APPLN. INFO.: US 1999-148280P P 19990811
WO 2000-US22087 W 20000811
OTHER SOURCE(S): MARPAT 134:173013

AB Many Gram-neg. pathogens assemble adhesive structures on their surfaces that allow them to colonize host tissues and cause disease. Novel compns. for the prevention or inhibition of pilus assembly in Gram-neg. pathogens are disclosed. Interacting with the binding site of pili subunits will neg. affect the **chaperone**/usher pathway which is one mol. mechanism by which Gram-neg. bacteria assemble adhesive pili structures

and thus prevent or inhibit pilus assembly. Addnl., novel compds. and compns. for interfering or preventing adhesion of pileated bacteria to host tissues are provided. Such compds. and compns. prevent or inhibit pili adhesion to host tissues by interacting with the mannose-binding domains on pilus adhesin subunits. Also provided are methods for the treatment or prevention of diseases caused by tissue-adhering pilus-forming bacteria by interaction with the binding between pilus subunits; the binding between pilus subunits and periplasmic **chaperones**; and the binding of a pilus adhesin to the host epithelial tissue. Also provided are pharmaceutical prepns. capable of interacting with the binding between pilus subunits, between pilus subunits and periplasmic **chaperones** and between the pilus adhesin. The present invention further relates to co-crystals of pilus **chaperone**-subunit co-complexes, detailed three dimensional structural information illustrating the interaction between pilus subunits and/or between a pilus subunit and a **chaperone** for a pilus **chaperone**-subunit co-complex and methods of utilizing the X-ray crystallog. data from such co-crystals to design, identify and screen for compds. that exhibit antibacterial activity. The present invention also relates to machine readable media embedded with the three-dimensional at. structure coordinates of pilus **chaperone**-subunit co-complex and subsets thereof.

L36 ANSWER 19 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:108385 HCAPLUS
DOCUMENT NUMBER: 134:277813
TITLE: The Antibacterial Peptide Pyrrhocoricin Inhibits the ATPase Actions of DnaK and Prevents **Chaperone**-Assisted Protein Folding
AUTHOR(S): Kragol, Goran; Lovas, Sandor; Varadi, Gyorgyi; Condie, Barry A.; Hoffmann, Ralf; Otvos, Laszlo, Jr.
CORPORATE SOURCE: The Wistar Institute, Philadelphia, PA, 19104, USA
SOURCE: Biochemistry (2001), 40(10), 3016-3026
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Recently, the authors documented that the short, proline-rich antibacterial peptides pyrrhocoricin, drosocin, and apidaecin interact with the bacterial heat shock protein DnaK, and peptide binding to DnaK can be correlated with antimicrobial activity. In the current report the authors studied the mechanism of action of these peptides and their binding sites to Escherichia coli DnaK. Biol. active pyrrhocoricin made of L-amino acids diminished the ATPase activity of recombinant DnaK. The inactive D-pyrrhocoricin analog and the membrane-active antibacterial peptide cecropin A or magainin 2 failed to inhibit the DnaK-mediated phosphate release from ATP. The effect of pyrrhocoricin on DnaK's other significant biol. function, the **refolding** of misfolded proteins, was studied by assaying the alk. phosphatase and .beta.-galactosidase activity of live bacteria. Remarkably, both enzyme activities were reduced upon incubation with L-pyrrhocoricin or drosocin. D-Pyrrhocoricin, magainin 2, or buforin II, an antimicrobial peptide involved in binding to bacterial nucleic acids, had only negligible effect. According to fluorescence polarization and dot blot anal. of synthetic DnaK fragments and labeled pyrrhocoricin analogs, pyrrhocoricin bound with a Kd of 50.8 .mu.M to the hinge region around the C-terminal helixes D and E, at the vicinity of amino acids 583 and 615. Pyrrhocoricin binding was not obsd. to the homologous DnaK fragment of Staphylococcus aureus, a pyrrhocoricin nonresponsive strain. In line with

the lack of ATPase inhibition, drosocin binding appears to be slightly shifted toward the D helix. Our data suggest that drosocin and pyrrhocoricin binding prevents the frequent opening and closing of the multihelical lid over the peptide-binding pocket of DnaK, permanently closes the cavity, and inhibits **chaperone**-assisted protein folding. The biochem. results were strongly supported by mol. modeling of DnaK-pyrrhocoricin interactions. Due to the prominent sequence variations of procaryotic and eucaryotic DnaK mols. in the multihelical lid region, the authors findings pave the road for the design of strain-specific antibacterial peptides and peptidomimetics. Far-fetched applications of the species-specific inhibition of **chaperone**-assisted protein folding include the control of not only bacteria but also fungi, parasites, insects, and perhaps rodents.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 20 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:692630 HCAPLUS
TITLE: The proline-rich **antibacterial** peptide family inhibits **chaperone**-assisted **protein** folding
AUTHOR(S): Otvos, Laszlo, Jr.; Kragol, Goran; Varadi, Gyorgyi; Condie, Barry A.; Lovas, Sandor
CORPORATE SOURCE: The Wistar Institute, Philadelphia, PA, 19104, USA
SOURCE: Peptides: The Wave of the Future, Proceedings of the Second International and the Seventeenth American Peptide Symposium, San Diego, CA, United States, June 9-14, 2001 (2001), 873-875. Editor(s): Lebl, Michal; Houghten, Richard A. American Peptide Society: San Diego, Calif.
CODEN: 69DBAL; ISBN: 0-9715560-0-8
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The mechanism of action of the proline-rich antimicrobial peptides pyrrhocoricin, drosocin and apidaecin, and their binding site to Escherichia coli heat shock protein DnaK were studied. Binding to synthetic DnaK D-E helix fragments could be correlated with antibacterial and antifungal activity. The effect of the peptides on DnaK's other function, the **refolding** of proteins, was examd. by assaying the alk. phosphatase and .beta.-galactosidase activity of liver bacteria. DnaK-binding of the peptides prevented the frequent opening and closing of the multihelical lid over the peptide binding pocket and inhibited **chaperone**-mediated protein folding.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 21 OF 43 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:434218 BIOSIS
DOCUMENT NUMBER: PREV200200434218
TITLE: Chestnut seed proteins involved in stress tolerance.
AUTHOR(S): Gomez, Luis (1); Aragoncillo, Cipriano (1)
CORPORATE SOURCE: (1) Departamento de Biotecnologia, Escuela Tecnica Superior de Ingenieros de Montes, Universidad Politecnica de Madrid, 28040, Madrid: lgomez@montes.upm.es Spain
SOURCE: Forest Snow and Landscape Research, (2001) Vol. 76, No. 3, pp. 415-419. http://www.wsl.ch/fosnola. print.
ISSN: 1424-5108.
DOCUMENT TYPE: Article
LANGUAGE: English

Search completed by David Schreiber 308-4292

AB A thorough understanding of the biochemical and physiological basis of stress responses in plants is needed to rationally manipulate tolerance traits. Most studies have focused so far on the identification of stress-responsive genes in herbaceous plants. Forest trees, by contrast, have been largely ignored. Here we summarize our recent findings on the functional characterization of two chestnut seed proteins, the molecular **chaperone** CsHSP17.5 and the endochitinase CsCh3, which are produced when plants are affected by thermal stress and microbial infection.

L36 ANSWER 22 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:660828 HCAPLUS
DOCUMENT NUMBER: 136:278029
TITLE: Expression and purification of recombinant rat eosinophil-associated ribonucleases, homologues of human eosinophil cationic protein and eosinophil-derived neurotoxin, and their characterization
AUTHOR(S): Nakajima, Masahiro; Hirakata, Mikito; Nittoh, Takeaki; Ishihara, Kenji; Ohuchi, Kazuo
CORPORATE SOURCE: Laboratory of Pathophysiological Biochemistry, Graduate School of Pharmaceutical Sciences, Tohoku University, Sendai, 980-8578, Japan
SOURCE: International Archives of Allergy and Immunology (2001), 125(3), 241-249
CODEN: IAAIEG; ISSN: 1018-2438
PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Human eosinophils contain two eosinophil RNases, eosinophil cationic protein (ECP) and eosinophil-derived neurotoxin (EDN). In rats, 8 homologs of human ECP and EDN have been identified. To clarify the biol. activity of rat eosinophil RNases, the authors cloned rat eosinophil-assocd. RNase (EAR)-1/rat RNase 7 and rat EAR-2/rat RNase 4, and produced recombinant rat pre-EAR-1 and pre-EAR-2 in a bacterial expression system. As the authors have already cloned the complete nucleotide sequence for rat EAR-1, the authors detd. that for rat EAR-2 cDNA by the rapid amplification of cDNA ends procedure. Recombinant rat pre-EAR-1 and pre-EAR-2 were expressed in Escherichia coli as N-terminal 6 .times. histidine-tagged proteins, isolated from the insol. fraction of the cell lysate and purified by a single-step method using an Ni-NTA resin column after solubilization with a 6 M guanidine soln. The deduced amino acid sequence revealed that the mol. wt. of EAR-2 contg. the signal peptide is 17.3 kDa and the isoelec. point is 8.59. The homol. in amino acid sequence between rat pre-EAR-2, and human pre-ECP and human pre-EDN is 51 and 53%, resp. The purified and **refolded** recombinant rat pre-EAR-1 and pre-EAR-2 showed bactericidal activity against E. coli and Staphylococcus aureus. These findings suggest that rat EAR-1 and EAR-2 act as host defense factors against bacterial infection in rats.
REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 23 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:622482. HCAPLUS
DOCUMENT NUMBER: 133:207102
TITLE: Use of thiol redox proteins for reducing protein intramolecular disulfide bonds, for improving the quality of cereal products, dough and baked goods and for inactivating snake, bee and scorpion toxins

Mitra 09/864,169

INVENTOR(S): Buchanan, Bob B.; Kobrehel, Karoly; Yee, Boihon C.; Wong, Joshua H.; Lozano, Rosa; Jiao, Jin-An; Shin, Sungho
PATENT ASSIGNEE(S): The Regents of the University of California, USA
SOURCE: U.S., 84 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6114504	A	20000905	US 1995-483930	19950607

PRIORITY APPLN. INFO.: US 1995-483930 19950607

AB Methods of reducing cystine contg. animal and plant proteins, and improving dough and baked goods' characteristics is provided which includes the steps of mixing dough ingredients with a thiol redox protein to form a dough and baking the dough to form a baked good. The method of the present invention preferably uses reduced **thioredoxin** with wheat flour which imparts a stronger dough and higher loaf vols. Methods for reducing snake, bee and scorpion toxin proteins with a thiol redox (SH) agent and thereby inactivating the protein or detoxifying the protein in an individual are also provided. Protease inhibitors, including the Kunitz and Bowman-Birk trypsin inhibitors of soybean, were also reduced by the NADP/**thioredoxin** system (NADPH, **thioredoxin**, and NADP-**thioredoxin** reductase) from either E. coli or wheat germ. When reduced by **thioredoxin**, the Kunitz and Bowman-Birk soybean trypsin inhibitors lose their ability to inhibit trypsin. Moreover, the reduced form of the inhibitors showed increased susceptibility to heat and proteolysis by either subtilisin or a protease prepn. from germinating wheat seeds. The 2S albumin of castor seed endosperm was reduced by **thioredoxin** from either wheat germ or E. coli. **Thioredoxin** was reduced by either NADPH and NADP-**thioredoxin** reductase or dithiothreitol. Analyses showed that **thioredoxin** actively reduced the intramol. disulfides of the 2S large subunit, but was ineffective in reducing the intermol. disulfides that connect the large to the small subunit. A novel cystine contg. protein that inhibits pullulanase was isolated. The protein was reduced by **thioredoxin** and upon redn. its inhibitory activity was destroyed or greatly reduced.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 24 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:622399 HCAPLUS
DOCUMENT NUMBER: 133:176583
TITLE: Use of thiol redox proteins for reducing protein intramolecular disulfide bonds, for improving the quality of cereal products, dough and baked goods and for inactivating snake, bee and scorpion toxins
INVENTOR(S): Buchanan, Bob B.; Kobrehel, Karoly; Yee, Boihon C.; Wong, Joshua H.; Lozano, Rosa; Jiao, Jin-an; Shin, Sungho
PATENT ASSIGNEE(S): Regents of the University of California, USA
SOURCE: U.S., 86 pp., Cont.-in-part of U. S. 935,002, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent

Search completed by David Schreiber 308-4292

Mitra 09/864,169

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 9
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6113951	A	20000905	US 1994-211673	19941121
WO 9308274	A1	19930429	WO 1992-US8595	19921008
W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML				
EP 863154	A1	19980909	EP 1998-201252	19921008
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, IE				
ZA 9207831	A	19930427	ZA 1992-7831	19921012
US 5792506	A	19980811	US 1994-326976	19941021
US 5952034	A	19990914	US 1997-953703	19971017
US 6190723	B1	20010220	US 1998-46780	19980323
US 6555116	B1	20030429	US 1999-238379	19990127

PRIORITY APPLN. INFO.:
US 1991-776109 B2 19911012
US 1992-935002 B2 19920825
WO 1992-US8595 W 19921008
EP 1992-921802 A3 19921008
US 1994-211673 A2 19940412
US 1994-326976 A2 19941021
US 1997-953703 A2 19971017

AB Methods of reducing cystine contg. animal and plant proteins, and improving dough and baked goods' characteristics is provided which includes the steps of mixing dough ingredients with a thiol redox protein to form a dough and baking the dough to form a baked good. The method of the present invention preferably uses reduced **thioredoxin** with wheat flour which imparts a stronger dough and higher loaf vols. Methods for reducing snake, bee and scorpion toxin proteins with a thiol redox (SH) agent and thereby inactivating the protein or detoxifying the protein in an individual are also provided. Protease inhibitors, including the Kunitz and Bowman-Birk trypsin inhibitors of soybean, were also reduced by the NADP/**thioredoxin** system (NADPH, **thioredoxin**, and NADP-**thioredoxin** reductase). When reduced by **thioredoxin**, the Kunitz and Bowman-Birk soybean trypsin inhibitors lose their ability to inhibit trypsin. Moreover, the reduced form of the inhibitors showed increased susceptibility to heat and proteolysis by either subtilisin or a protease prepn. from germinating wheat seeds. The 2S albumin of castor seed endosperm was reduced by **thioredoxin**. **Thioredoxin** was reduced by either NADPH and NADP-**thioredoxin** reductase or dithiothreitol. Analyses showed that **thioredoxin** actively reduced the intramol. disulfides of the 2S large subunit, but was ineffective in reducing the intermol. disulfides that connect the large to the small subunit. A novel cystine contg. protein that inhibits pullulanase was isolated; **thioredoxin** redn. of this protein destroyed or greatly reduced its inhibitory activity.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 25 OF 43 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2000:304651 BIOSIS
DOCUMENT NUMBER: PREV200000304651
TITLE: Polynucleotides encoding human mitochondrial **chaperone** proteins.

Search completed by David Schreiber 308-4292

Mitra 09/864,169

AUTHOR(S): Bandman, Olg; Goli, Surya K. (1)
CORPORATE SOURCE: (1) San Jose, CA USA
ASSIGNEE: Incyte Pharmaceuticals, Inc.
PATENT INFORMATION: US 6010879 January 04, 2000
SOURCE: Official Gazette of the United States Patent and Trademark Office Patents, (Jan. 4, 2000) Vol. 1230, No. 1, pp. No pagination. e-file.
ISSN: 0098-1133.
DOCUMENT TYPE: Patent
LANGUAGE: English

AB The present invention provides a human mitochondrial **chaperone** protein (Hmt-GrpE) and polynucleotides which identify and encode Hmt-GrpE. The invention also provides expression vectors and host cells and a method for producing Hmt-GrpE. The invention also provides for antibodies or antagonists specifically binding Hmt-GrpE, and their use in the prevention and treatment of cancer. The invention also provides diagnostic assays. The invention also provides for the use of Hmt-GrpE in identifying antifungal and antiprotozoal therapeutics.

L36 ANSWER 26 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-499326 [44] WPIDS
CROSS REFERENCE: 2002-636125 [68]
DOC. NO. CPI: C2000-149898
TITLE: Treatment of protein with **thioredoxin**, nicotinamide adenine dinucleotide phosphate-redoxin reductase and reduced nicotinamide adenine dinucleotide phosphate eliminates allergic reaction of animals administered the protein.
DERWENT CLASS: B04 C03 D13 D16
INVENTOR(S): BUCHANAN, B B; DEL VAL, G; FRICK, O L; LOZANO, R M; WONG, J H; YEE, B C
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA
COUNTRY COUNT: 89
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000044781	A1	20000803	(200044)*	EN	179
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 2000027383	A	20000818	(200057)		
EP 1147131	A1	20011024	(200171)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CN 1350547	A	20020522	(200258)		
JP 2002541059	W	20021203	(200309)		164

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000044781	A1	WO 2000-US1958	20000125
AU 2000027383	A	AU 2000-27383	20000125
EP 1147131	A1	EP 2000-905749	20000125
		WO 2000-US1958	20000125

Search completed by David Schreiber 308-4292

CN 1350547	A	CN 2000-804968	20000125
JP 2002541059	W	JP 2000-596037	20000125
		WO 2000-US1958	20000125

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000027383	A	Based on	WO 200044781
EP 1147131	A1	Based on	WO 200044781
JP 2002541059	W	Based on	WO 200044781

PRIORITY APPLN. INFO: US 1999-238379 19990127
AN 2000-499326 [44] WPIDS
CR 2002-636125 [68]
AB WO 200044781 A UPAB: 20030206
NOVELTY - Hypo-allergenic pollen protein (I) treated with **thioredoxin**, nicotinamide adenine dinucleotide phosphate-redoxin reductase (NTR) and reduced nicotinamide adenine dinucleotide phosphate (NADPH), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a reduced pollen protein extract (II) treated with **thioredoxin**, NTR and NADPH;

(2) a hypo-allergenic protein comprising a protein treated with **thioredoxin**, NTR and NADPH;

(3) a method of increasing the digestibility of a pollen protein comprising treating the pollen protein with **thioredoxin**, NTR and NADPH and administering the treated protein to an animal increasing the digestibility measured by symptoms exhibited by the animal as compared to a control;

(4) a method for decreasing the allergenicity of an animal to a specific amount of a specific allergen protein with sulfide bonds comprising reducing sulfide bonds in the protein through treatment with **thioredoxin**, NTR and NADPH and administering the treated protein to the allergic animal in intermittent increasing immunotherapeutic doses over a period of time to decrease or eliminate the allergic reaction of the animal; and

(5) a method for determining the presence of disulfide bonds in a particular allergen protein comprising incubating the allergen protein with **thioredoxin**, NTR and NADPH to reduce protein disulfide bonds and then analyzing the incubated protein for disulfide bond reduction.

ACTIVITY - Antiallergic.

No biological data given.

MECHANISM OF ACTION - None given.

USE - The reduced pollen protein is used for immunotherapy to reduce or eliminate the allergic reaction of an animal allergic to pollen protein in its non-reduced state (claimed). The digestibility of Amb t V is increased by the treatment (claimed).

Thioredoxin, NTR and NADPH are used to reduce gliadins or glutenins in flour or seeds to improve the characteristics of dough and baked goods and to produce an improved gluten or produce a gluten-like product from cereal grains other than wheat and rye.

To reduce cystein containing proteins e.g. amylase and trypsin inhibitors to improve the quality of feed and cereal products and to inactivate snake neurotoxins and insect and scorpion venoms toxins in vitro and treat the corresponding toxicities in individuals.

Hypo-allergenic ingestible food can be prepared by the methods

including beef, milk, soy, egg, rice or wheat.
Dwg.0/18

L36 ANSWER 27 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-317972 [27] WPIDS
DOC. NO. CPI: C2000-096323
TITLE: Identifying recombinantly an antimicrobial bioactive peptide used as a therapeutic agent involves transforming a host cell with expression vector with tightly regulable control region and measuring its inhibition.
DERWENT CLASS: B04 D16
INVENTOR(S): ALTMAN, E
PATENT ASSIGNEE(S): (ALTM-I) ALTMAN E; (UYGE-N) UNIV GEORGIA RES FOUND INC
COUNTRY COUNT: 88
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000022112	A1	20000420	(200027)*	EN	135
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9964270	A	20000501	(200036)		
BR 9914519	A	20010703	(200141)		
EP 1121425	A1	20010808	(200146)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
KR 2002002354	A	20020109	(200246)		
JP 2002534059	W	20021015	(200282)		144

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000022112	A1	WO 1999-US23731	19991012
AU 9964270	A	AU 1999-64270	19991012
BR 9914519	A	BR 1999-14519	19991012
		WO 1999-US23731	19991012
EP 1121425	A1	EP 1999-951940	19991012
		WO 1999-US23731	19991012
KR 2002002354	A	WO 1999-US23731	19991012
		KR 2001-704689	20010413
JP 2002534059	W	WO 1999-US23731	19991012
		JP 2000-576003	19991012

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9964270	A	Based on	WO 200022112
BR 9914519	A	Based on	WO 200022112
EP 1121425	A1	Based on	WO 200022112
KR 2002002354	A	Based on	WO 200022112
JP 2002534059	W	Based on	WO 200022112

PRIORITY APPLN. INFO: US 1998-112150P 19981214; US 1998-104013P

Search completed by David Schreiber 308-4292

19981013
AN 2000-317972 [27] WPIDS
AB WO 200022112 A UPAB: 20000606
NOVELTY - Identifying a bioactive peptide (BP) involves transforming a host cell with an expression vector comprising a tightly regulable control region operably linked to a nucleic acid sequence encoding a peptide (P), growing the transformed cell under conditions that repress expression of (P) and then inducing its expression which, if is inhibitory to host cell growth, is indicative of BP expression.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a BP comprising a first stabilizing group comprising the N-terminus of the bioactive peptide and a second stabilizing group comprising the C-terminus of the bioactive peptide;

(2) a bioactive peptide comprising several sequential uniformly charged amino acids comprising the N-terminus of the bioactive peptide and several sequential oppositely charged amino acids comprising the C-terminus of the bioactive peptide;

(3) a fusion protein comprising a four-helix bundle protein and a polypeptide;

(4) a polypeptide comprising a bioactive peptide comprising a first stabilizing (FS1) group of a small stable protein, -Pro-, -Pro-Pro-, -Xaa-Pro- or -Xaa-Pro-Pro- and a second stabilizing (SS1) group consisting of a small stable protein, -Pro, -Pro-Pro, -Pro-Xaa or -Pro-Pro-Xaa; and a cleavage site immediately preceding the first stabilizing group; in which the second stabilizing group comprises the C-terminus of the polypeptide

(5) a polypeptide comprising a bioactive peptide comprising a first stabilizing (FS2) group of Pro-, Pro-Pro-, Xaa-Pro- or Xaa-Pro-Pro- and a second stabilizing (SS2) group consisting of a -Pro-, -Pro-Pro-, -Pro-Xaa- or -Pro-Pro-Xaa-; and a cleavage site immediately following the second stabilizing group; in which the first stabilizing group comprises the N-terminus of the polypeptide;

(6) a polypeptide comprising several sequential uniformly charged amino acids comprising the N-terminus of the bioactive peptide and several sequential oppositely charged amino acids comprising the C-terminus of the bioactive peptide, and a cleavage site immediately preceding several sequential uniformly charged amino acids;

(7) a polypeptide comprising several sequential uniformly charged amino acids comprising the N-terminus of the bioactive peptide and several sequential oppositely charged amino acids comprising the C-terminus of the bioactive peptide, and a cleavage site immediately following several sequential oppositely charged amino acids; and

(8) using an antimicrobial peptide (AP) involves covalently linking one or several FS2 groups to the N-terminus and SS1 groups to a C-terminus both from a small stable **protein**, to the **antimicrobial** peptide and contacting a microbe with this stabilized antimicrobial peptide.

ACTIVITY - Antimicrobial. No supporting data is given.

MECHANISM OF ACTION - None given.

USE - AP which is stabilized is used for treating a patient having a condition treatable with a peptide drug (claimed). The stabilized peptides are also used for inhibiting the growth of a microbe. The new antibacterial peptides are useful to treat various pathogenic bacteria such as Staphylococci, Streptococci and Enterococci which are the primary causes of nosocomial infections. Novel inhibitor peptides identified by the method can be medical treatments and therapies directed against microbial infection. Also, these novel inhibitor peptides can be used, in turn, to identify additional novel antibacterial peptides using a synthetic approach, and can also be used to elucidate potential new drug

targets. The inhibitor peptide target which is inactivated is identified using reverse genetics by isolating mutants that are no longer inhibited by the peptide. These mutants are then mapped in order to precisely determine the protein target that is inhibited.

ADVANTAGE - The bioactive peptides identified according to the method are stabled in the intracellular environment of the host cell. The method thus preferably identifies bioactive peptides that are resistant to proteases and peptidases. The antimicrobial peptide thus modified has enhanced stability in the intracellular environment relative to an unmodified antimicrobial peptide.

DESCRIPTION OF DRAWING(S) - The figure is a plasmid map of pLAC11. Dwg.2/9

L36 ANSWER 28 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-649055 [63] WPIDS
DOC. NO. CPI: C2000-196369
TITLE: New modified protein, e.g. enzyme, stabilized by coupling to branched beta-1,3-glucan, has good skin compatibility and is useful in cosmetic or dermatological compositions.
DERWENT CLASS: B04 D16 D21
INVENTOR(S): KANG, B Y; KIM, M S; LEE, D C; LEE, S G
PATENT ASSIGNEE(S): (PACI-N) PACIFIC CORP; (TAIH-N) TAIHEIYO KAGAKU KK; (PACI-N) PACIFIC SYSTEMS INC
COUNTRY COUNT: 4
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
FR 2791059	A1	20000922	(200063)*		32
JP 2000273182	A	20001003	(200064)		11
KR 2000060771	A	20001016	(200124)		
KR 283848	B	20010215	(200212)		
US 6406897	B1	20020618	(200244)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2791059	A1	FR 1999-15067	19991130
JP 2000273182	A	JP 1999-338765	19991129
KR 2000060771	A	KR 1999-9380	19990319
KR 283848	B	KR 1999-9380	19990319
US 6406897	B1	US 1999-453965	19991203

FILING DETAILS:

PATENT NO	KIND		PATENT NO
KR 283848	B	Previous Publ.	KR 2000060771

PRIORITY APPLN. INFO: KR 1999-9380 19990319
AN 2000-649055 [63] WPIDS
AB FR 2791059 A UPAB: 20001205
NOVELTY - A new modified protein (I) consisting of a parent protein (II) which has been modified to improve its stability by coupling to a branched beta -1,3-glucan (III) having a beta -1,6-bond, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method for modifying (II) to improve its stability, involving

coupling (II) with (III); and

(2) a composition for external or topical application, comprising 0.00001-100 wt. % (I) and a dermatological or cosmetic carrier.

USE - The modification process is useful for stabilizing a wide range of enzymes and other proteins (e.g. cytokines, growth factors, hormones, antigens, antibodies or **antimicrobial** or antiinflammatory **proteins**). (I) are especially used in cosmetic or dermatological compositions (claimed), e.g. for removing corns, regulating sebum, providing antiinflammatory or antioxidant effects, treatment, smoothing the skin, eliminating toxins or metal ions, improving skin elasticity, removing wrinkles, combating aging, whitening or tanning the skin, preventing or inhibiting hair loss, antibacterial or antifungal effects, deodorization, curing sunburn or cicatrizing wounds. Proteins in general are useful e.g. in detergents, cosmetics, pharmaceuticals (e.g. as digestive or antiinflammatory agents) or food applications (e.g. for tenderizing meat).

ADVANTAGE - Modification of (II) using (III) improves the stability without loss of activity. (I) does not cause skin irritation.

Dwg.0/0

L36 ANSWER 29 OF 43 MEDLINE DUPLICATE 5

ACCESSION NUMBER: 2001076952 MEDLINE
DOCUMENT NUMBER: 20541368 PubMed ID: 11087363
TITLE: Interaction between heat shock **proteins** and **antimicrobial** peptides.
AUTHOR: Otvos L Jr; O I; Rogers M E; Consolvo P J; Condie B A; Lovas S; Bulet P; Blaszczyk-Thurin M
CORPORATE SOURCE: The Wistar Institute, 3601 Spruce Street, Philadelphia, Pennsylvania 19104, M-Scan, Inc., 606 Brandywine Parkway, West Chester, Pennsylvania 19380, USA..
Otvos@wistar.upenn.edu
CONTRACT NUMBER: GM45011 (NIGMS)
SOURCE: BIOCHEMISTRY, (2000 Nov 21) 39 (46) 14150-9.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200101
ENTRY DATE: Entered STN: 20010322
Last Updated on STN: 20010322
Entered Medline: 20010111

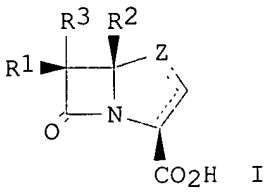
AB Drosocin, pyrrhocoricin, and apidaecin, representing the short (18-20 amino acid residues) proline-rich antibacterial peptide family, originally isolated from insects, were shown to act on a target bacterial protein in a stereospecific manner. Native pyrrhocoricin and one of its analogues designed for this purpose protect mice from bacterial challenge and, therefore, may represent alternatives to existing antimicrobial drugs. Furthermore, this mode of action can be a basis for the design of a completely novel set of antibacterial compounds, peptidic or peptidomimetic, if the interacting bacterial biopolymers are known. Recently, apidaecin was shown to enter Escherichia coli and subsequently kill bacteria through sequential interactions with diverse target macromolecules. In this paper report, we used biotin- and fluorescein-labeled pyrrhocoricin, drosocin, and apidaecin analogues to identify biopolymers that bind to these peptides and are potentially involved in the above-mentioned multistep killing process. Through use of a biotin-labeled pyrrhocoricin analogue, we isolated two interacting proteins from E. coli. According to mass spectrometry, Western blot, and

fluorescence polarization, the short, proline-rich peptides bound to DnaK, the 70-kDa bacterial heat shock protein, both in solution and on the solid-phase. GroEL, the 60-kDa **chaperonin**, also bound in solution. Control experiments with an unrelated labeled peptide showed that while binding to DnaK was specific for the antibacterial peptides, binding to GroEL was not specific for these insect sequences. The killing of bacteria and DnaK binding are related events, as an inactive pyrrhocoricin analogue made of all-D-amino acids failed to bind. The pharmaceutical potential of the insect antibacterial peptides is underscored by the fact that pyrrhocoricin did not bind to Hsp70, the human equivalent of DnaK. Competition assay with unlabeled pyrrhocoricin indicated differences in GroEL and DnaK binding and a probable two-site interaction with DnaK. In addition, all three antibacterial peptides strongly interacted with two bacterial lipopolysaccharide (LPS) preparations in solution, indicating that the initial step of the bacterial killing cascade proceeds through LPS-mediated cell entry.

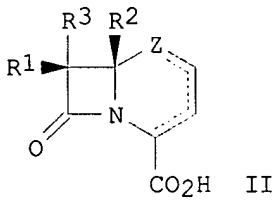
L36 ANSWER 30 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:549275 HCAPLUS
DOCUMENT NUMBER: 131:184810
TITLE: synthesis and antimicrobial activity of .beta.-lactam-like **chaperone** inhibitors
INVENTOR(S): Hultgren, Scott; Almqvist, Frederik; Soto, Gabe
PATENT ASSIGNEE(S): Washington University, USA
SOURCE: PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9942466	A2	19990826	WO 1999-US3578	19990219
WO 9942466	A3	19991209		
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2355117	AA	19990826	CA 1999-2355117	19990219
AU 9927741	A1	19990906	AU 1999-27741	19990219
US 6495539	B1	20021217	US 1999-252792	19990219
PRIORITY APPLN. INFO.:			US 1998-75264P P	19980219
			WO 1999-US3578 W	19990219

OTHER SOURCE(S): MARPAT 131:184810
GI



I



II

AB Synthesis and antimicrobial activity of .beta.-lactams (I) [Z = S, SO, SO2 or O; R1, R2 and R3 = independently (un)substituted alkyl, (un)substituted acyl, (un)substituted aryl, (un)substituted arylcarbonyl, (un)substituted arylalkyl, (un)substituted pyridyl; B ring may contain one double bond located between positions 2 and 3] and (II) [Z = S, SO, SO2 or O; R1, R2 and R3 = independently (un)substituted alkyl, (un)substituted acyl, (un)substituted aryl, (un)substituted arylcarbonyl, (un)substituted arylalkyl, (un)substituted pyridyl; B ring may contain one double bond located between positions 2 and 3 or 3 and 4 or 4 and 5] and appropriate pharmacol. esters or salts is presented.

L36 ANSWER 31 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:768706 HCAPLUS
DOCUMENT NUMBER: 132:62850
TITLE: Protective immunity against Streptococcus mutans infection in mice after intranasal immunization with the glucan-binding region of S. mutans glycosyltransferase
AUTHOR(S): Jespersgaard, Christina; Hajishengallis, George; Huang, Yan; Russell, Michael W.; Smith, Daniel J.; Michalek, Suzanne M.
CORPORATE SOURCE: Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL, 35294, USA
SOURCE: Infection and Immunity (1999), 67(12), 6543-6549
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Here the authors present the construction and characterization of a chimeric vaccine protein combining the glucan-binding domain (GLU) of the gtfB-encoded water-insol. glucan-synthesizing glucosyltransferase enzyme (GTF-I) from Streptococcus mutans and **thioredoxin** from Escherichia coli, which increases the soly. of coexpressed recombinant proteins and stimulates proliferation of murine T cells. The protective potential of intranasal (i.n.) immunization with this chimeric immunogen was compared to that of the GLU polypeptide alone in a mouse infection model. Both immunogens were able to induce statistically significant mucosal (salivary and vaginal) and serum responses which were sustained to the end of the study (exptl. day 100). Following infection with S. mutans, sham-immunized mice maintained high levels of this cariogenic organism (.apprx.60% of the total oral streptococci) for at least 5 wk. In contrast, animals immunized with the **thioredoxin**-GLU chimeric protein (Thio-GLU) showed significant redn. (>85%) in S. mutans colonization after 3 wk. The animals immunized with GLU alone required 5 wk to demonstrate significant redn. (>50%) of S. mutans infection. Evaluation of dental caries activity at the end of the study showed that mice immunized with either Thio-GLU or GLU had significantly fewer carious lesions in the buccal enamel or dentinal surfaces than the sham-immunized animals. The protective effects against S. mutans colonization and caries activity following i.n. immunization with GLU or Thio-GLU are attributed to the induced salivary IgA anti-GLU responses. Although in general Thio-GLU was not significantly better than GLU alone in stimulating salivary IgA responses and in protection against dental caries, the finding that the GLU polypeptide alone, in the absence of any immunoenhancing agents, is protective against disease offers a promising and safe strategy for the development of a vaccine against caries.
REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 32 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:602554 HCAPLUS
DOCUMENT NUMBER: 131:295177
TITLE: Interaction of radicicol with members of the heat shock protein 90 family of molecular **chaperones**
AUTHOR(S): Schulte, Theodor W.; Akinaga, Shiro; Murakata, T.; Agatsuma, Tsutomu; Sugimoto, Seiji; Nakano, Hirofumi; Lee, Yong S.; Simen, Birgitte B.; Argon, Yair; Felts, Sara; Toft, David O.; Neckers, Leonard M.; Sharma, Sreenath V.
CORPORATE SOURCE: Medicine Branch National Cancer Institute, National Institutes of Health, Rockville, MD, 20850, USA
SOURCE: Molecular Endocrinology (1999), 13(9), 1435-1448
CODEN: MOENEN; ISSN: 0888-8809
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The Hsp90 family of proteins in mammalian cells consists of Hsp90 .alpha. and .beta., Grp94, and Trap-1 (Hsp75). Radicicol, an antifungal antibiotic that inhibits various signal transduction proteins such as v-src, ras, Raf-1, and mos, was found to bind to Hsp90, thus making it the prototype of a second class of Hsp90 inhibitors, distinct from the chem. unrelated benzoquinone ansamycins. We have used two novel methods to immobilize radicicol, allowing for detailed analyses of drug-protein interactions. Using these two approaches, we have studied binding of the drug to N-terminal Hsp90 point mutants expressed by in vitro translation. The results point to important drug contacts with amino acids inside the N-terminal ATP/ADP-binding pocket region and show subtle differences when compared with geldanamycin binding. Radicicol binds more strongly to Hsp90 than to Grp94, the Hsp90 homolog that residues in the endoplasmic reticulum. In contrast to Hsp90, binding of radicicol to Grp94 requires both the N-terminal ATP/ADP-binding domain as well as the adjacent neg. charged region. Radicicol also specifically binds to yeast Hsp90, Escherichia coli HtpG, and a newly described tumor necrosis factor receptor-interacting protein, Trap-1, with greater homol. to bacterial HtpG than to Hsp90. Thus, the radicicol-binding site appears to be specific to and is conserved in all members of the Hsp90 family of mol. **chaperones** from bacteria to mammals, but is not present in other mol. **chaperones** with nucleotide-binding domains.
REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 33 OF 43 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 1999:198676 SCISEARCH
THE GENUINE ARTICLE: 173DK
TITLE: Purification and characterization of a plant antimicrobial peptide expressed in Escherichia coli
AUTHOR: Harrison S J; McManus A M; Marcus J P; Goulter K C; Green J L; Nielsen K J; Craik D J; Maclean D J; Manners J M (Reprint)
CORPORATE SOURCE: UNIV QUEENSLAND, COOPERAT RES CTR TROP PLANT PATHOL, LEVEL 5, JOHN HINES BLDG, BRISBANE, QLD 4072, AUSTRALIA (Reprint); UNIV QUEENSLAND, COOPERAT RES CTR TROP PLANT PATHOL, BRISBANE, QLD 4072, AUSTRALIA; UNIV QUEENSLAND, CTR DRUG DESIGN & DEV, BRISBANE, QLD 4072, AUSTRALIA
COUNTRY OF AUTHOR: AUSTRALIA
SOURCE: PROTEIN EXPRESSION AND PURIFICATION, (MAR 1999) Vol. 15, No. 2, pp. 171-177.

Search completed by David Schreiber 308-4292

Publisher: ACADEMIC PRESS INC, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495.
ISSN: 1046-5928.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 18

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB MiAMP1 is a low-molecular-weight, cysteine-rich, antimicrobial peptide isolated from the nut kernel of Macadamia integrifolia. A DNA sequence encoding MiAMP1 with an additional ATG: start codon was cloned into a modified pET vector under the control of the T7 RNA polymerase promoter. The pET vector was cotransformed together with the vector pSB161, which expresses a rare arginine tRNA. The peptide was readily isolated in high yield from the insoluble fraction of the Escherichia coil extract. The purified peptide was shown to have an identical molecular weight to the native peptide by mass spectroscopy indicating that the N-terminal methionine had been cleaved. Analysis by NMR spectroscopy indicated that the **refolded** recombinant peptide had a similar overall three-dimensional structure to that of the native peptide. The peptide inhibited the growth of phytopathogenic fungi in vitro in a similar manner to the native peptide. To our knowledge, MiAMP1 is the first antimicrobial peptide from plants to be functionally expressed in E. coil. This will permit a detailed structure-function analysis of the peptide and studies of its mode of action on phytopathogens. (C) 1999 Academic Press.

L36 ANSWER 34 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1998-542280 [46] WPIDS
DOC. NO. NON-CPI: N1998-422167
DOC. NO. CPI: C1998-162866
TITLE: New human mitochondrial **chaperone** protein - useful in the prevention and treatment of cancer, and to identify antifungal and antiprotozoal therapeutics.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): BANDMAN, O; GOLI, S K
PATENT ASSIGNEE(S): (INCY-N) INCYTE PHARM INC; (INCY-N) INCYTE GENOMICS INC
COUNTRY COUNT: 41
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9842837	A1	19981001	(199846)*	EN	34
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AT AU BR CA CH CN DE DK ES FI GB IL JP KR MX NO NZ RU SE SG US					
AU 9865797	A	19981020	(199909)		
US 6010879	A	20000104	(200008)		
US 6432915	B1	20020813	(200255)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9842837	A1		WO 1998-US5698	19980320
AU 9865797	A		AU 1998-65797	19980320
US 6010879	A	CIP of	US 1997-824875	19970326
			US 1997-971158	19971114
US 6432915	B1	CIP of	US 1997-824875	19970326
		Div ex	US 1997-971158	19971114

Search completed by David Schreiber 308-4292

US 1999-416488 19991012

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9865797	A	Based on	WO 9842837
US 6432915	B1	Div ex	US 6010879

PRIORITY APPLN. INFO: US 1997-971158 19971114; US 1997-824875 19970326; US 1999-416488 19991012

AN 1998-542280 [46] WPIDS

AB WO 9842837 A UPAB: 19981223

A substantially purified human mitochondrial **chaperone** protein (Hmt-GrpE) comprising the 217 amino acid sequence fully defined in the specification (I) or fragments of (I) is new. Also claimed are: (i) an isolated and purified polynucleotide sequence encoding HMT-GRPE (N1); (ii) a polynucleotide that hybridises under stringent conditions to N1; (iii) a hybridisation probe comprising N1; (iv) a polynucleotide sequence that is complementary to N1 (N1c); (v) an isolated and purified polynucleotide comprising the 793 bp sequence fully defined in the specification (II) or variants of II; (vi) a hybridisation probe comprising N1c; (vii) an expression vector containing N1; (viii) a host cell containing the above vector; (ix) a method to produce Hmt-GrpE comprising culture of the host cell under expression conditions and recovery of the polypeptide; (x) a purified antibody specific to Hmt-GrpE; (xi) a purified antagonist which specifically binds to, and modulates activity of, Hmt-GrpE; (xii) a method to treat cancer by administration of the antagonist; (xiii) a method to detect a polynucleotide encoding Hmt-GrpE in a biological sample comprising; (a) hybridising N2 to nucleic acid material of the sample to form a hybridisation complex; (b) detecting the complex, presence of which indicates Hmt-GrpE -encoding polynucleotide in the sample; (xiv) a method to identify an antifungal agent comprising; (a) combining at least one agent with a fungal/protozoal GrpE; (b) identifying an agent which binds to the fungal/protozoal GrpE; (c) combining the agent with Hmt-GrpE; (d) determining that the agent does not bind to Hmt-GrpE, thereby identifying antifungal or antiprotozoal specificity.

USE - The inventions can be used as Hmt-GrpE antagonists to treat or prevent cancer, including adenocarcinoma, sarcoma, melanoma, lymphoma and leukaemia, which include cancers of the pancreas, prostate, ovary, breast, colon, bladder, adrenal gland, heart, kidney, and brain. Also disclosed is the use to identify agents that bind to fungal or protozoal mt-GrpE, but not to the human form. The agents can then be used to treat fungal infections including Histoplasma species, Coccidioides immitis, Candida and Aspergillus, particularly in immunocompromised patients, and protozoal infections common in humans and domestic livestock throughout the tropics, including malaria, African sleeping sickness (nagana in cattle), Chagas disease, kala azur, espundia, and Oriental sore.

ADVANTAGE - none given

Dwg.0/7

L36 ANSWER 35 OF 43 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:640604 HCAPLUS

DOCUMENT NUMBER: 129:311587

TITLE: Large-scale analysis of expressed genes from the leaf of oilseed rape (Brassica napus)

AUTHOR(S): Lee, C. M.; Lee, Y. J.; Lee, M. H.; Nam, H. G.; Cho, T. J.; Hahn, T. R.; Cho, M. J.; Sohn, U.

Search completed by David Schreiber 308-4292

CORPORATE SOURCE: Department Genetic Engineering, Kyungpook National University, Taegu, 702, S. Korea
SOURCE: Plant Cell Reports (1998), 17(12), 930-936
CODEN: PCRPD8; ISSN: 0721-7714
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB While the no. of leaf-specific expressed genes is estd. to be .apprx.6000, an overview of gene diversity and expression patterns in the leaf of oil-seed rape (Brassica napus) has not yet been reported. In an effort to understand gene expression patterns and to identify new genes, 754 expressed sequence tags (ESTs) were generated from the leaf of Brassica napus. By comparing them to public databases, 204 of the ESTs (27.1%) were shown to have sequence homol. to known genes, with 52 of them (6.9%) matching to genes not previously studied in B. napus. The most abundant transcripts were involved in photosynthesis and energy metab. When compared with maize leaf ESTs and rice leaf ESTs, the pattern of gene expression was different depending on the developmental stages of the leaf.

L36 ANSWER 36 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:757114 HCAPLUS
DOCUMENT NUMBER: 128:58264
TITLE: Novel DNA sequences provided by PCR amplification of hybrid genes
INVENTOR(S): Dalboge, Henrik; Diderichsen, Borge; Sandal, Thomas; Kauppinen, Sakari
PATENT ASSIGNEE(S): Novo Nordisk A/S, Den.; Dalboge, Henrik; Diderichsen, Borge; Sandal, Thomas; Kauppinen, Sakari
SOURCE: PCT Int. Appl., 71 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9743409	A2	19971120	WO 1997-DK216	19970512
WO 9743409	A3	19980226		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9730255	A1	19971205	AU 1997-30255	19970512
EP 898618	A2	19990303	EP 1997-924928	19970512
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
US 6270968	B1	20010807	US 1998-189060	19981105

PRIORITY APPLN. INFO.: DK 1996-562 A 19960510
WO 1997-DK216 W 19970512

AB The present invention relates to a method of providing novel DNA sequences encoding a polypeptide with an activity of interest, comprising the following steps: (1) PCR amplification of said DNA with PCR primers with homol. to (a) known gene(s) encoding a polypeptide with an activity of interest, (2) linking the obtained PCR product to a 5' structural gene

sequence and a 3' structural gene sequence, (3) expressing said resulting hybrid DNA sequence, (4) screening for hybrid DNA sequences encoding a polypeptide with said activity of interest or related activity, (5) isolating the hybrid DNA sequence identified in step 4. Further, the invention also relates novel DNA sequences provided according to the method of the invention and polypeptides with an activity of interest encoded by said novel DNA sequences of the invention. The DNA sequences provided are full-length hybrid structural gene sequences encoding complete polypeptides with an activity of interest made up of one unknown sequence and one or two known sequences. Thus, conserved regions in known bacterial xylanase or cellulase sequences were identified by alignment and used to design PCR primers, and hybrid genes isolated by SOE-PCR (splicing by overlap extension-polymerase chain reaction) from soil samples, cow rumen bacteria, and identified bacterial species.

L36 ANSWER 37 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:757022 HCAPLUS
DOCUMENT NUMBER: 128:58298
TITLE: Protein and gene sequences expressed during infection by Streptococcus pneumoniae
INVENTOR(S): Black, Michael Terrance; Hodgson, John Edward; Knowles, David Justin Charles; Nicholas, Richard Oakley; Stodola, Robert King
PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA; Smithkline Beecham Plc; Black, Michael Terrance; Hodgson, John Edward; Knowles, David Justin Charles; Nicholas, Richard Oakley; Stodola, Robert King
SOURCE: PCT Int. Appl., 482 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9743303	A1	19971120	WO 1997-US7950	19970514
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 934336	A1	19990811	EP 1997-925516	19970514
R: BE, CH, DE, DK, FR, GB, IT, LI, NL				
JP 2000508178	T2	20000704	JP 1997-540991	19970514

PRIORITY APPLN. INFO.: US 1996-17670P P 19960514
WO 1997-US7950 W 19970514

AB Newly identified polynucleotides, polypeptides encoded by such polynucleotides, the uses of such polynucleotides and polypeptides, as well as the prodn. of such polynucleotides and polypeptides and recombinant host cells transformed with the polynucleotides are provided. Thus, 262 DNA fragment sequences and 290 encoded protein sequences are provided that are expressed by Streptococcus pneumoniae strain 0100993 during infection. Because each of the DNA sequences contains an open reading frame (ORF) with appropriate initiation and termination codons, the encoded protein upon expression can be used as a target for the screening of antimicrobial drugs. This invention also relates to inhibiting the biosynthesis or action of such polynucleotides or polypeptides and to the use of such inhibitors in therapy.

L36 ANSWER 38 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:155061 HCAPLUS

DOCUMENT NUMBER: 126:156416
TITLE: Streptococcal heat shock proteins, especially HSP70 and HSP72, cDNA sequences, antibodies and vaccines, and infection diagnosis, treatment, and prevention
INVENTOR(S): Hamel, Josee; Brodeur, Bernard; Martin, Denis; Rioux, Clement
PATENT ASSIGNEE(S): Iaf Biovac Inc., Can.; Hamel, Josee; Brodeur, Bernard; Martin, Denis; Rioux, Clement
SOURCE: PCT Int. Appl., 155 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9640928	A1	19961219	WO 1996-CA322	19960517
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
US 5919620	A	19990706	US 1995-472534	19950607
CA 2224015	AA	19961219	CA 1996-2224015	19960517
AU 9656828	A1	19961230	AU 1996-56828	19960517
AU 700080	B2	19981217		
EP 832238	A1	19980401	EP 1996-914821	19960517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
CN 1192241	A	19980902	CN 1996-195891	19960517
JP 11507214	T2	19990629	JP 1996-500026	19960517
BR 9609399	A	20010828	BR 1996-9399	19960517
ZA 9603987	A	19971031	ZA 1996-3987	19960520
NO 9705752	A	19980206	NO 1997-5752	19971205

PRIORITY APPLN. INFO.:
US 1995-472534 A 19950607
US 1995-1805P P 19950804
WO 1996-CA322 W 19960517

AB Novel heat shock proteins (HSPs) of Streptococcus pneumoniae, Streptococcus pyogenes, and Streptococcus agalactiae having apparent mol. masses of 70-72 kDa, immunol. related polypeptides, the nucleotide and derived amino acid sequences of HSP72 of S. pneumoniae, the nucleotide and derived amino acid sequences of HSP70 of S. pyogenes, the nucleotide and derived amino acid sequences of HSP 70 of S. agalactiae, antibodies that binds to the HSPs, and recombinant DNA methods for the prodn. of the HSPs and immunol. related polypeptides are described. The polypeptides, DNA sequences and antibodies of this invention provide new means for the diagnosis, prevention and/or treatment of Streptococcal disease.

L36 ANSWER 39 OF 43 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 6
ACCESSION NUMBER: 95293037 EMBASE
DOCUMENT NUMBER: 1995293037
TITLE: [The pYV plasmid, key element of Yersinia virulence].
LE PLASMIDE PYV, ELEMENT CLE DE LA VIRULENCE DES YERSINIA.
AUTHOR: Cornelis G.R.
CORPORATE SOURCE: Faculte de Medecine, Universite Catholique de Louvain, 74 avenue Hippocrate,B-1200 Bruxelles, Belgium
SOURCE: Medecine/Sciences, (1995) 11/9 (1295-1304).

Search completed by David Schreiber 308-4292

ISSN: 0767-0974 CODEN: MSMSE4
COUNTRY: France
DOCUMENT TYPE: Journal; General Review
FILE SEGMENT: 004 Microbiology
022 Human Genetics
029 Clinical Biochemistry
LANGUAGE: French
SUMMARY LANGUAGE: English

AB Although Yersinia pestis, Y. pseudotuberculosis and Y. enterocolitica infect their host by different routes and cause diseases of variable severity, they share a common tropism for lymphoid tissues and a common capacity to resist the primary immune response of the host. They also share a highly conserved 70-kb plasmid called pYV. This plasmid encodes the adhesin YadA and eleven secreted proteins called Yops. YopH is a tyrosine phosphoprotein phosphatase related to eukaryotic tyrosine phosphatases. Less is known about the ten other Yops. All the Yops are secreted by a new secretion system which is also encoded by the pYV plasmid. This new system has also been encountered in other human pathogens such as Shigella and Salmonella but, surprisingly, also in plant pathogens such as Pseudomonas solanacearum. This system seems thus to be devoted to the secretion of virulence determinants. Yop secretion is not accompanied by the removal of a N-terminal signal sequence. It requires the presence of cytoplasmic individual **chaperones** called 'Syc' proteins. Yops are not freely secreted in the extracellular compartment but rather 'injected'' into eukaryotic cells when the bacterium adheres at their surface. In the case of YopH, this presumably leads to dephosphorylation of some regulatory **proteins** and so, prevents the **antibacterial** response. This represents a new mechanism in microbial pathogenesis. The chromosome of Y. enterocolitica completes the virulence panoply of Y. enterocolitica by encoding Yst, a thermostable enterotoxin related to ST1 of Escherichia coli and to guanylin, an endogenous activator of the intestinal guanylyl cyclase.

L36 ANSWER 40 OF 43 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1993-152468 [18] WPIDS
CROSS REFERENCE: 1996-230600 [23]; 1999-288106 [24]
DOC. NO. CPI: C1993-068107
TITLE: Reducing di sulphide bonds in protein with reduced thiol redox protein - for improving quality of feed, dough, baked goods etc. and for treating snake bite etc..
DERWENT CLASS: B04 D11 D13 D16
INVENTOR(S): BUCHANAN, B B; JIAO, J; KOBREHEL, K; LOZANO, R; SHIN, S; WONG, J H; YEE, B C; BUCHANAN, B
PATENT ASSIGNEE(S): (REGC) UNIV CALIFORNIA; (BUCH-I) BUCHANAN B B; (INRG) INRA KOBREHEL LAB TECHN CEREALS KAROLY; (JIAO-I) JIAO J; (LOZA-I) LOZANO R; (SHIN-I) SHIN S; (WONG-I) WONG J H; (YEEB-I) YEE B C
COUNTRY COUNT: 42
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9308274	A1	19930429	(199318)*	EN	194
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA SE					
W: AT AU BB BG BR CA CH CS DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL NO PL RO RU SD SE US					
ZA 9207831	A	19930630	(199332)		199
AU 9228617	A	19930521	(199336)		
JP 07502887	W	19950330	(199521)		

Search completed by David Schreiber 308-4292

SK 9400418 A3 19950711 (199537)
CZ 9400832 A3 19950816 (199541)
EP 672127 A1 19950920 (199542) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE
HU 69780 T 19950928 (199546)
NZ 244695 A 19960326 (199618)
EP 672127 A4 19960327 (199642)
AU 677771 B 19970508 (199727)
EP 863154 A1 19980909 (199840) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE
EP 672127 B1 19990107 (199906) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE
DE 69228130 E 19990218 (199913)
US 6113951 A 20000905 (200044)
US 6114504 A 20000905 (200051)
KR 278378 B 20010115 (200207)

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9308274	A1		WO 1992-US8595	19921008
ZA 9207831	A		ZA 1992-7831	19921012
AU 9228617	A		AU 1992-28617	19921008
JP 07502887	W		WO 1992-US8595	19921008
			JP 1993-507194	19921008
SK 9400418	A3		WO 1992-US8595	19921008
			SK 1994-418	19921008
CZ 9400832	A3		CZ 1994-832	19921008
EP 672127	A1		EP 1992-921802	19921008
			WO 1992-US8595	19921008
HU 69780	T		WO 1992-US8595	19921008
			HU 1994-1018	19921008
NZ 244695	A		NZ 1992-244695	19921012
EP 672127	A4		EP 1992-921802	
AU 677771	B		AU 1992-28617	19921008
EP 863154	A1	Div ex	EP 1992-921802	19921008
			EP 1998-201252	19921008
EP 672127	B1		EP 1992-921802	19921008
			WO 1992-US8595	19921008
		Related to	EP 1998-201252	19921008
DE 69228130	E		DE 1992-628130	19921008
			EP 1992-921802	19921008
			WO 1992-US8595	19921008
US 6113951	A	CIP of	US 1991-776109	19911012
		CIP of	US 1992-935002	19920825
			WO 1992-US8595	19921008
			US 1994-211673	19941121
US 6114504	A	CIP of	US 1991-776109	19911012
		CIP of	US 1992-935002	19920825
		Div ex	WO 1992-US8595	19921008
		Div ex	US 1994-211673	19941121
			US 1995-483930	19950607
KR 278378	B		WO 1992-US8595	19921008
			KR 1994-701221	19940412

FILING DETAILS:

PATENT NO	KIND	PATENT NO

Search completed by David Schreiber 308-4292

AU 9228617	A	Based on	WO 9308274
JP 07502887	W	Based on	WO 9308274
EP 672127	A1	Based on	WO 9308274
HU 69780	T	Based on	WO 9308274
AU 677771	B	Previous Publ.	AU 9228617
		Based on	WO 9308274
EP 863154	A1	Div ex	EP 672127
EP 672127	B1	Related to	EP 863154
		Based on	WO 9308274
DE 69228130	E	Based on	EP 672127
		Based on	WO 9308274
US 6113951	A	Based on	WO 9308274
KR 278378	B	Previous Publ.	KR 94702931
		Based on	WO 9308274

PRIORITY APPLN. INFO: US 1992-935002 19920825; US 1991-776109 19911012; US 1994-211673 19941121; US 1995-483930 19950607

AN 1993-152468 [18] WPIDS

CR 1996-230600 [23]; 1999-288106 [24]

AB WO 9308274 A UPAB: 20020130

A Cys-contg. non-**thionin** protein (I) is reduced by (i) adding a thiol redox protein (II) to a liq. or substance contg. (I); (2) reducing (II) and (I) using reduced (II) to reduce (I).

Also neurotoxins contg. intramolecular Cys are reduced by contact with a thiol redox agent (SH). Also new are (1) yeast cells transformed with a vector contg. recombinant DNA for **thioredoxin** (IIa) or NADP-**thioredoxin** reductase (III); (2) an isolated pullulanase inhibitor protein (iv) having disulphide bonds and mol.wt. 80-15 kD; (3) reduced or inactivated snake neurotoxin proteins; (4) compsns. contg. (I), (IIa), (III) and NADPU (or NADPH-generating system).

Pref. (II) is (IIa), reduced by (III) and NADPH, or it is glutaredoxin reduced by reduced glutathione.

USE/ADVANTAGE - The method is used to reduce amylase or protease inhibitors; gliadins; glutenins; (IV), snake, bee or scorpion toxins. Partic. applications include (a) removal of enzyme inhibitors to improve quality of feed and cereal products; (b) redn. of glutenins and gliadins in cereals to improve properties of dough and baked goods (e.g. crumb quality, softness and loaf vol.); (c) prodn. of improved gluten (and similar products from barley, maize, etc); (d) reducing heat or protease stability of (I) having intra-molecular disulphide bonds (the method is selective for such bonds over intermolecular bonds); (e) inactivation of (iv) to improve activity of pullulanase from wheat or barley endosperm; and treatment of snake, bee or scorpion poisoning, or in vitro inactivation of venom

Dwg.0/52

ABEQ ZA 9207831 A UPAB: 19931118

Reducing cystine contg. animal and plant proteins, and improving dough and baked goods includes mixing dough ingredients with a thiol redox protein to form a dough and baking the dough to form baked goods. The method pref. uses reduced **thioredoxin** with wheat flour which imparts a stronger dough and higher loaf volumes.

Methods for reducing snake, bee and scorpion toxin proteins with a thiol redox (SH) agent and thereby inactivates the protein or detoxifying the protein in an individual are also provided.

Protease inhibitors, including the Kunitz and Bowman-Birk trypsin inhibitors of soybean, were also reduced by the NADP/**thioredoxin** system (NADPH, **thioredoxin**, and NADP-**thioredoxin**

reductase) from either E.coli or wheat germ. When reduced by **thioredoxin**, the Kunitz and Bowman-Birk soybean trypsin inhibitors lose their ability to inhibit trypsin. The reduced form of the inhibitors showed increased susceptibility to heat and proteolysis by either subtilisin or a protease preparation from germinating wheat seeds. The 2S albumin of castor seed endosperm was reduced by **thioredoxin** from either wheat germ of E.coli. **Thioredoxin** was reduced by either NADPH and NADP-**thioredoxin** reductase or dithiothreitol. Analyses showed that **thioredoxin** actively reduced the intramolecular disulphides of the 2S large subunit, but was ineffective in reducing the intermolecular disulphides that connect the large to the small subunit. A novel cystine containing protein that inhibits pullulanase was isolated. The protein was reduced by **thioredoxin** and upon reduction its inhibitor activity was destroyed or greatly reduced.

L36 ANSWER 41 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:106623 HCAPLUS
DOCUMENT NUMBER: 110:106623
TITLE: A rectifier with protein and Langmuir-Blodgett redox films
INVENTOR(S): Isoda, Satoru; Kamiyama, Tomotsugu; Kawakubo, Hiroaki
PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63237563	A2	19881004	JP 1987-73351	19870326
JP 2550980	B2	19961106		

PRIORITY APPLN. INFO.: JP 1987-73351 19870326

AB The rectifier comprises the following: (1) a 1st film of a 1st redox material; (2) a 2nd film, which is made of a 2nd redox material having a redox potential different from the 1st, on the 1st film; and (3) 1st and 2nd electrodes elec. connected to the 1st and 2nd films. The 1st or 2nd film comprises a redox (pseudo)protein capable of transferring electrons in 1 direction, and the other film comprises a Langmuir-Blodgett film of (or the electrode modified with) an org. mol. Optionally, the protein may comprise a nonheme-Fe-S protein, cytochrome c, cytochrome b, cytochrome a, flavodoxins, plastocyanin, or **thioredoxin**, and the org. mol. may comprise a viologen, flavin, **thionin**, methylene blue, methylcapryl blue, gallocyanin, indophenol indigo, phenosofranine, Neutral Red, or toluidine blue.

L36 ANSWER 42 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1989:106625 HCAPLUS
DOCUMENT NUMBER: 110:106625
TITLE: A switching device with protein and Langmuir-Blodgett redox films
INVENTOR(S): Isoda, Satoru; Kamiyama, Tomotsugu; Kawakubo, Hiroaki
PATENT ASSIGNEE(S): Mitsubishi Electric Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63237562	A2	19881004	JP 1987-73350	19870326
JP 06080814	B4	19941012		

PRIORITY APPLN. INFO.: JP 1987-73350 19870326

AB The device, which shows a transistor or switching property, comprises the following: (1) a 1st film of a 1st redox material; (2) a 2nd film, which is made of a 2nd redox material having a redox potential different from the 1st, on the 1st film; (3) a 3rd film, which is made of a 3rd redox material having a redox potential different from the 2nd; (4) 1st and 3rd electrodes for the 1st and 3rd films; and (5) a 2nd electrode which elec. affects the 2nd film. The 1st, 2nd, or 3rd film comprises a redox (pseudo)protein, and 1 of the remaining 2 films comprises a Langmuir-Blodgett film of, or the electrode modified with, an org. mol. The remaining film comprises the protein, Langmuir-Blodgett, or chem.-modified film. Optionally, the protein may comprise a nonheme-Fe-S protein, cytochrome c, cytochrome b, cytochrome a, flavodoxin, plastocyanin, or **thioredoxin**, and the org. mol. may comprise a viologen, flavin, **thionin**, methylene blue, methylcapryl blue, gallocyanin, indophenol, indigo, phenosofranine, Neutral Red, or toluidine blue.

L36 ANSWER 43 OF 43 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1986:17076 HCAPLUS
DOCUMENT NUMBER: 104:17076
TITLE: Single amino acid mutations block a late step in the folding of .beta.-lactamase from Staphylococcus aureus
AUTHOR(S): Craig, S.; Hollecker, M.; Creighton, T. E.; Pain, R. H.
CORPORATE SOURCE: Dep. Biochem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, NE1 7RU, UK
SOURCE: Journal of Molecular Biology (1985), 185(4), 681-7
CODEN: JMOBAK; ISSN: 0022-2836
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two single-amino-acid mutant proteins of .beta.-lactamase PC1 from S. aureus (P2, with **thionine**-40 .fwdarw. isoleucine, and P54, with aspartate 146 .fwdarw. asparagine) were investigated by using urea-gradient polyacrylamide gel electrophoresis, CD, and sedimentation velocity. Investigation of the folded states of the mutants has shown that compared to wild-type PC1 they are slightly more expanded and have reduced arom. CD, but contain the same amt. of secondary structures as PC1. The mutants exhibit fast **refolding** kinetics, in contrast to PC1, which **refolds** only slowly. Apparently, the folded mutants are in a state close to but distinct from the native state of PC1 and have certain properties in common with a compact intermediate in the folding of .beta.-lactamase. Therefore, these single amino acid substitutions result in a folding pathway blocked at a point located after collapse of the already folded structural units into a globular shape, and close to the final reshuffling step that leads to the native state of the wild-type enzyme.

Search completed by David Schreiber 308-4292